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The Emu

A Quarterly Magazine to popularise the Study and Protection of Native Birds.

OFFICIAL ORGAN OF THE AUSTRALASIAN ORNITHOLOGISTS' UNION.



Hon. Editors / A. J. CAMPBELL, Col. Mem. B.O.U. (Acting)
/ A. G. CAMPBELL.

VOL. VII.—1907-8.

Melbourne:

WALKER, MAY & CO., PRINTERS, 25 MACKILLOP STREET.

LONDON AGENT:

R. H. PORTER, 7 PRINCES STREET, CAVENDISH SQUARE, W.

1908.

08 Dec 882 061105

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PLATE I.



(1.) Belt of Sheoaks (*Casuarina*). (2.) Clump of Box (*Eucalyptus*).

The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. VII.]

1ST JULY, 1907.

[PART I.

On Fifteen Thousand Acres: its Bird-Life Sixty Years Ago.

BY ISAAC BATEY, DROUIN, VICTORIA.

DESCRIPTION OF AREA.

THE area under consideration is situated some 20 miles north-west of Melbourne, and is part of that extensive rich pastoral country that attracted the first settlers in Victoria's early colonial history. Through it lay the main route to the central goldfields, that were discovered in 1851 and thronged with hundreds of thousands of fortune-seekers from all quarters of the globe. My early field observations extend back to 1846, when, as a young man on my father's station, I roamed the country far and wide. Most of the area is of basaltic origin, and the higher land to the rear marks the position whence, from great fissures and volcanic vents, the ancient lava poured out southward as far as Melbourne and Geelong. The subterranean hills of this ancient gold-bearing rock are shown in many places along the creek sides, where the water action has cut down through the superincumbent beds of lava, and exposed them to view. Timber was not plentiful on the basalt, though on the silurian ridges to the north, and thence inland, the forests of eucalypts were dense. My area and my list of birds have been influenced by this silurian country, for therefrom the lava fields received their first supply of vegetation and of bird life in past times, and from there in the present certain species of birds make annual or periodic incursions on to what is not essentially their true habitat.

Bounded on the east by Emu Creek, on the west by Mt. Alexander road, the 15,000 acres possess a fine watercourse, Jackson's Creek flowing east through the centre of the block. The course of this stream is nicely timbered with a variety of eucalypts, wattle, with other scrubs, fringing the banks of the stream. Belts of sheoaks (*Casuarina*) on the uplands above, extend along each side of the river, one a mile long, the other about 4 miles in length, in parts a mile wide, and forming a dense forest. This last forestry was on Glencoe station, taken up by

Messrs. Edward and John William Page in 1836. Besides sheoaks on Glencoe, there were clumps of white, yellow, and spotted box (*Eucalyptus*), and three or four small patches of mallee-like scrub. The course of Emu Creek was timbered like that of Jackson's Creek. The greater portion of the 15,000 acres was plain, with odd trees dotted around. Thus, all these things considered, the block was, in earlier times, a paradise for a variety of birds, many of which, owing to the destruction of trees, have now left the district. Some species have become extinct a long way outside of the territory selected for this paper.

BIRDS OF PREY.

WEDGE-TAILED EAGLE (*Uroaetus audax*).—This great bird was very numerous in 1846. Shot-guns could have reduced it in a very slight degree; good rifles would, but we did not use that kind of firearm those days. Though Eagles were ever so plentiful, my tally was only four. I do not suppose my late father accounted for more than six in his day. When strychnine was introduced, however, it rapidly balanced accounts with these destructive birds. During the lambing of 1850, on the Emu Creek, my father poisoned dead lambs, and by the time dropping was finished I had 14 of the great birds laid in a row. It was ascertained that an Eagle's method of killing a young lamb was to drive its powerful talons through the skull of the defenceless creature. The bird then stood on the victim, broke into the fore part, and, working to the rear, if undisturbed, stripped the flesh, leaving only skin and skeleton. My experience of Wedge-tails covers a lifetime, yet I never saw one attempt to fly off with a young lamb, though at that stage it is a light weight. Lambing takes place before Eagles begin nesting, consequently when a lamb was killed there was no necessity to carry it away. In later times it was discovered Eagles had nested in tall trees in gullies in Brodie's Forest.* Evidently these bulky structures last for a great number of years. In proof how destructive Eagles were, in 1850 I had charge of a strong mob containing lambs from three days to six weeks old. One morning, reaching my flock after sunrise, a brace of lambs lay dead, with the birds standing on them; several other Wedge-tails were on the scene. If they had been left to follow their inclinations the probabilities are that each bird would have slain a lamb.

SEA-EAGLE (*Haliaëtus leucogaster*).—It was during 1851 that one of these magnificent birds appeared on Jackson's Creek, where it remained a considerable time. It is the same bird we find in Riverina, where in the sixties one that had been shot was examined, after which another was seen seven miles south of Hay.

WHISTLING EAGLE (*Haliastur sphenurus*).—This large Hawk casually visited the locality in autumn or winter, and feasted on dead carcasses. It has a plaintive whistling voice. My father named it the "Thick-headed Hawk."

BLACK-CHEEKED FALCON (*Fulco melanogenys*).—My opinion is that, for rapidity of flight, this bird cannot be excelled. I have noticed it taking exercise—headlong plunges downwards and then shooting up vertically. It was somewhat rare our way, and was supposed to nest in the Eagle Rocks, situated on our run. The cliff in question is the finest on Jackson's Creek. Magpies, though very courageous, feared this Falcon greatly, for, from observation, when other birds raised alarm cries on its approach, the Magpies consulted their own safety. Those years Musky Lorikeets, following up

* Situated to the south of Jackson's Creek.



Eagle Rocks,

(The crags in the upper part, where the Eagles nested, are basalt (lava) rock. As a deep hollow this overlies Silurian gold-bearing sandstone, now exposed by the action of the creek.)

gum blossom, passed in droves. When pursued they endeavoured to escape by mounting aloft, but their enemy, shooting above them, darted downwards and pinned one with his strong talons. The poor thing screamed until the Falcon silenced it by a nip on the head with his sharp bill. Once after sundown a horde of Ravens was seen, perhaps a hundred yards in the air, when suddenly a Black-cheeked Falcon shot straight up and caught one, but, the prey being too heavy, the captor fell with it to the ground at an angle of 45 degrees. We ran over, and the Falcon took flight, but the victim was stone dead—killed, I think, with a hard squeeze across the back. It is upwards of 20 years since this grand Falcon was noted in the old locality; the last pair seen was at the Hanging Rock, where presumably they nested.

BLACK FALCON (*Falco niger*).—This Hawk seems to be widely distributed, because I have seen it on the Old Man Plain in Riverina, where on one occasion I saw it take a Quail that was flushed as I rode along. In this case the Falcon appeared to strike the quarry with his breastbone, stunning it, then, wheeling about, picked it up. The Black Falcon, unlike his grey brother, affects the plains, and if you are riding, walking, or driving stock, should a Quail rise, to your surprise a Falcon often comes from behind you like a flash. The Black Falcon was a rare bird of old in my part. Twenty years must have elapsed since one was noted; still I suppose it will be met with about Rockbank.

GOSHAWK (*Astur approximans*).—This handsome bird is still a frequent visitor, yet at no time was it plentiful. Apparently its favourite haunt is the course of a stream. Once it was observed on Jackson's Creek hunting rabbits under bushes. This Hawk is to be met with in this part of Gippsland (Drouin), but I do not recollect seeing it on the Murrumbidgee, where I was previously stationed.

SPARROW-HAWK (*Accipiter cirrhocephalus*).—Always a rare casual; the last one seen was near Woodend.

BROWN HAWK (*Hieracidea orientalis*).—Still a permanent on the old location; nests there yet; never saw it hunting. Long since, by the side of a nest, a dead snake was seen, hung on a branch. This harmless Hawk is ruthlessly shot by excursionists from Melbourne.

NANKEEN KESTREL (*Cerchneis cenchroides*).—This bird nested every year on our station; perhaps owing to introduced Sparrows and Starlings taking up the few hollow spouts, it does not breed there now. It still appears, and is found in the Drouin region. Once I saw it peep into a hole in a tree branch where a White-rumped Wood-Swallow had her nest in Riverina. The Kestrel evidently saw there was only one plan to secure the sitting bird, so, thrusting his long leg down the aperture, he pulled the poor thing out.

HARRIER (*Circus gouldi*).—Still an annual visitant, nesting in growing crops; and noted on the Murrumbidgee, where its nest was found in a swamp. This bird breeds at Drouin. Four young are evidently one brood.

LETTER-WINGED KITE (*Elanus scriptus*).—About 1888 I saw a bird of this species at Toolern (Melton Shire) and three near Mt. Macedon. One of the latter was shot, and its identity established. It would appear to be the rarest of the Hawk tribe in above region.

BLACK-SHOULDERED KITE (*Elanus axillaris*).—One season in Newham Shire some of these Kites appeared, and their identity was proved. They and the previous species seemed to be out of bounds thereabouts.

WHITE GOSHAWK (*Astur nova-hollandiae*).—Messrs. Notman, Mt. William, near Lancefield, grassed a White Goshawk, which I stuffed. My late father spoke of one obtained on the River Plenty, near Greensborough, during the forties.

NIGHT BIRDS.

LESSER MASKED OWL (*Strix delicatula*).—Probably it was in 1847, on a moonless night, my father, seeing a light-coloured bird close at hand, got the gun, while I attended him with the old-fashioned tin lantern. Finally he located the stranger on top of a post, and a shot was fired at it without killing it. Doubtless this was a Delicate Owl. Many years elapsed before another was seen; then one was taken, another found dead. Some drovers from Lachlan way, amongst other birds taken to sell down country, had a brace of these young Owls. In 1882 saw one near Lancefield.

BOOBOOK OWL (*Ninox boobook*).—Always a permanent, is still on the old place, and in 1905 a brood of young, recognised as such by their cries, was noted. Should say they were bred on Redstone Hill. This bird, on the Murrumbidgee, N.S.W., appeared to me to have a different call to those in Victoria. “Rolf Boldrewood” renders its cry “Hoo-hoo.”

TAWNY FROGMOUTH (*Podargus strigoides*).—Always a rare bird in the locality, the timber being somewhat unsuitable; but it was afterwards found in Brodie’s Forest. The country in Lancefield vicinity appears to be a favourite haunt.

WHITE-THROATED NIGHTJAR (*Eurostopus albicularis*).—On coming to Sunbury, in 1846, saw it frequently; after that year noticed it hunting at dusk. Between 1855 and ’60 flushed one from the ground not far from our residence. Since then, though moving about much in and out, I have never met this bird.

OWLET NIGHTJAR (*Egoteles novaehollandiae*).—It was well into the fifties when we had our first intimation of this bird by its peculiar whistling call. From then till now it appeared rare. Within the last three years one was frequently heard and seen.

PASSERINE BIRDS.

RAVEN (*Corone australis*).—One of my brothers maintained, long years ago, that we had both Crows and Ravens, but I could not distinguish them then. As far back as can be remembered Ravens feasted on the berries that grew on thorny boxthorn and briar bushes, which to a great extent have replaced wattles on the creeks. Both Crows and Ravens, I should say, are very useful birds in destroying insect life of all kinds, either in the matured or larva state, though they are also pests on fruit.

GREY CROW-SHRIKE (*Strepera cuneicaudata*).—Of old came down in force about autumn, remained through some winter months, after which it left, supposedly to breed in the forest country. For years it has been an uncommon bird. Saw nest at Newham. This bird has taken to fruit.

PIED CROW-SHRIKE (*Strepera graculina*).—For a year or two after our arrival, in 1846, this bird was an autumn or winter visitor. To the best of recollection it ceased visiting the locality prior to 1850. About 1877 observed a large flock of them near Kilmore: next saw one near Lancefield, in 1882 or thereabouts. This was the last seen. For two years as rabbit inspector constantly exploring Gisborne Shire, then for a few months Newham Shire, a few times in Lancefield region, away across Bolinda to Mickleham, and in all such travels failed to locate a Pied Crow-Shrike. Was at Avenel about 1876 for six weeks, during which time, though excursions were made, did not see one.

WHITE-WINGED CHOUGH (*Corcorax melanorhamphus*).—Seen once or twice in Glencoe sheoaks. Still found at Gisborne, Newham, and adjacent timbered lands. Very tame in Riverina. The kitchen had two doors opposite each other; the cook out, one bird looked in, ran through, the others followed. Permanent formerly in Brodie’s Forest.

ORIOLE (*Oriolus viridis*).—A rare visitor on ancient location, where it never made a long stay. Saw two young ones able to fly at Mt. William, near Lancefield, beginning of 1869. Old bird found some insect attached to pendulous eucalypt leaves. Being unable to pull it off, she let her feet go and swung backwards and forwards to wrench it away.

MAGPIE-LARK (*Grallina picata*).—Continues to breed at Redstone Hill. I find it distributed over a large area of Victoria. As an insectivorous bird to me it seems to be unrivalled. It should be rigorously protected. Under no circumstances have I known it to attack fruit. If undisturbed it seems to court the society of man, for in pines not 30 yards from the back door of my sister's house near Drouin a pair are in the habit of nesting annually. Besides this Magpie-Lark a Black-and-White Fantail, a Harmonious Shrike-Thrush, and a Yellow-rumped Acanthiza nested in the same clump of pines.

GREY SHRIKE-THRUSH (*Collyriocincla harmonica*).—A constant visitor on Jackson's Creek, never in numbers; appears to remain throughout winter and spring. Probably breeds; if so, never saw its nest. If undisturbed becomes very tame. A Thrush came about and picked up scraps just outside the door at Redstone Hill. One day the bird, seizing a piece of entrail, laid it on the end of a loose rail and pulled at fat. Not finding the hold good it moved the entrail to a splintered end of the rail, where it held, and the bird pulled off the morsel.

BLACK-FACED CUCKOO-SHRIKE (*Grauculus melanops*).—A constant visitor; has nested at Redstone Hill. This bird devours grapes.

BROWN FLYCATCHER (*Micreca fascinans*).—Fairly frequent. Called the "Peter-peter" bird, from its sweet call.

RED-CAPPED ROBIN (*Petrarca goodenovii*).—This species was rare, a male and female being always in company in Glencoe sheoaks. It used to be found on Bolinda station, in Fenton Hill sheoaks. The very last one noted was on Lockton estate, near Bulla, in May, 1891, amongst white box scrub that had grown from stumps of felled trees.

FLAME-BREASTED ROBIN (*Petrarca phoenicea*).—From 1846 to 1906 a constant visitor, arriving with us about the last week in March or the first week in April. The Flame-breasted males, with their lady followers, do not seem to appear in such numbers on the area as they did formerly. I do not think this is due to a diminishing of numbers, but is owing to the fact that agriculture has extended their feeding grounds, consequently they spread about more than they used to do. I never knew this Robin to nest in our vicinity.

SCARLET-BREASTED ROBIN (*Petrarca leggii*).—Visits the old squatting stations yet, but never at any time numerous. A pair, male and female, was seen in 1906. This is a very ornate bird, with a red breast, black back, white cap, and white on wings.

PINK-BREASTED ROBIN (*Petrarca rhodinogaster*).—During the winter of 1854 a Robin, one solitary bird, took up its quarters in a small patch of scrub on Jackson's Creek. To the best of recollection its back was blue-black, while the breast was a claret red, and it had very little white above nostrils. I saw a bird of the same kind at Mt. Macedon. They are scrub-loving birds.

HOODED ROBIN (*Petrarca bicolor*).—On Redstone Hill and Glencoe for years it could be met with at any time. Its favourite haunt was in sheoaks—never seen out of them. But the wholesale destruction of casuarinas apparently affected a change in former habits. The last pair noted on Emu Creek was close to the water's edge. Never saw their nests, yet no doubt they bred with us.

BLUE WREN (*Malurus cyanurus*).—Ever present. Judging from long

observation this bird has increased. At Diggers' Rest, one mile from Jackson's Creek, they nested in a boxthorn hedge at the back of a house. On the Creek Blue Wrens are very tame—pick up crumbs about the yard, pick meat off bones, and if no person is about, and a door be left open, boldly enter a room. Have caught them and clipped their tails, when it was found that they came again as usual.

BLACK-AND-WHITE FANTAIL (*Rhipidura tricolor*).—This species has a very wide range. In Riverina it is known as the "Shepherd Bird." Always to be seen at Jackson's Creek, and continues to nest there. An albino once took up its quarters in garden. We as young folks were very proud of this unique bird, but one day its feathers were discovered: the rascally house cats had destroyed it.

WHITE-SHAFTED FANTAIL (*Rhipidura albiscapa*).—Still constant, though I never knew it to breed with us. Once saw its nest on Mt. Macedon, not far from Camel's Hump.

SHINING FLYCATCHER (*Myiagra nitida*).—I have fallen in with not more than half a dozen. It is a rare bird, is only seen while the migrating season lasts, and is found singly in tall trees.

RESTLESS FLYCATCHER (*Sisura inquieta*).—From 1846 and some years later this bird was frequently met with, though not numerous. It disappeared prior to 1860. My duties as rabbit inspector at Gisborne for two years took me over every inch of that shire, and I was at Newham for some months. Throughout, in the careful exploration of both localities, I never located a *Sisura*. Going by two years ago one bird was seen at Redstone Hill.

GROUND-THRUSH (*Geocichla lunulata*).—Though continually moving about Jackson's Creek after Ducks or fish, it was not till 1870, as near as can be minded, that this handsome bird became known to us. Since then it has shown itself rarely. I have chanced on solitary Ground-Thrushes on those parts of the stream where small patches of scrub still exist near the edge of the water. The 1870 specimen was pronounced by Mr. W. J. S. Bowie to be the same species that frequented the Yarra near the Asylum when his father had charge of that institution. In all I do not suppose over half a dozen have appeared since 1870, one of which was taken in a rabbit trap. The scrubs of Mt. Macedon are haunted by this bird, for in my explorations there it has been frequently met with.

SATIN BOWER-BIRD (*Ptilonorhynchus violaceus*).—This with us in early times could be put down as a frequent bird, appearing in autumn or early winter months, and on rare occasions made a long stay. The last at Redstone Hill was in 1851, when a small party arrived, amongst which was a mature blue-black male bird, the first seen on the place. Since 1851 this Bower-Bird has not visited the area, neither has it to my knowledge been met with in the region round about. The Hurst family, on the old cattle station at Diamond Creek, not far from Melbourne, 40 years ago informed me that the Bower-Birds visited that line of country, where they attacked fruit.

EMU-WREN (*Stipiturus malachurus*).—Rather out of bounds; only seen once, at Bald Hill, in rushy grass. Noticed in swampy covers at Mt. Macedon.

LITTLE GRASS-BIRD (*Megalurus gramineus*).—An occasional bird. The grass swamp, where it lives, when wind-stirred, gives forth a weird sound, but if the weather is dull and this bird gives forth its plaintive whistle the two combined are quite melancholy.

SHORT-BILLED TREE-TIT (*Smicromys brevirostris*).—From 1846 up to about 1854 a permanent, in parties of four or five, never numerous; and

once found its domed nest with tiny brownish eggs. It was a fluttering feeder, kept on with a chirp sounding like "Dit dit," and then for such a mite it called out shrilly "Chee-wee-sher." In or about 1855 it left, and though investigating closely I have failed to locate the bird since. Not in Gisborne, Bulla, or Newham Shires.

YELLOW-RUMPED TIT (*Acanthiza chrysorrhoa*).—From 1846 to 1906 has held its own, but to my mind is not so numerous as it was formerly. It appears to court the society of man, seeing that it is given to nest in garden shrubs. It is famous for destroying aphis and small insects in and out of gardens.

BROWN TIT (*Acanthiza pusilla*).—This bird was always with us, found amongst eucalypts, but it is only occasionally seen now.

LITTLE TIT (*Acanthiza nana*).—We gave a bird the name of Chit Chit to distinguish it from *Acanthiza pusilla*. It was probably this species.

LITTLE FIELD-WREN (*Chthonicola sagittata*).—Came very rarely, only in seasons when creek flats were well grassed; rose with a song, and if post or dead tree was near pitched on it. Evidently it bred with us. Have not seen it for years.

SCRUB-WREN (*Sericornis osculans*).—Has always been a permanent of Jackson's Creek, and before the gold-diggings saw one feeding a bulky young bird. Calling my father's attention, on beholding the fledgling he decided it was a Cuckoo.

SPOTTED GROUND-BIRD (*Cinclosoma punctatum*).—Found at Mt. William, near Lancefield, and in Newham Shire. It was styled the Ground-Pigeon.

BABBLER (*Pomatorhinus temporalis*). A party lived in Glencoe sheoaks. This bird had its habitat in sheoak country, for it was never found where eucalypts were the prevailing timber. Since the almost total destruction of sheoaks this bird has taken to eucalyptian tracts. Noted it in Brodlic's Forest: the last time was on Emu Creek, in 1901, and about same period a small party was observed on the highlands at Mickleham, near Deep Creek.

STRIATED FIELD-WREN (*Calamanthus fuliginosus*).—This natty bird, with greenish-tinted plumage, cocked tail, shy habits, and most agreeable warbling voice, has ever been a permanent. Found of old on part of run called "Brock's Bottom," where there were some loose rocks, with a few bushes. Apparently it has increased, for now we find it about stone walls, in which it takes refuge when alarmed. Never under any circumstances has it been seen close to watercourses.

WHITE-FRONTED CHAT (*Epthianura albifrons*).

WHITE-BACKED MAGPIE (*Gymnorhina tenuonota*).—Has always held its own. Up to the time the Sunbury Industrial Schools were established 3,000 or more birds used to come to roost in a clump of box trees close to our house. The boys at the school began snaring them, as the result of which they were greatly thinned out. They were often shot off their perches at night by visitors. On bright moonlight nights they camped in low trees; when nights were dark they selected tall ones. In summer, if a morning proved hot, numbers would remain all day under the shade, singing merrily and playing with each other. In the afternoon they went to the open country to the west of the creek. In later times, as a fair amount of tree-planting has been done, they live more dispersedly than formerly. A pair nested in a tree beneath a bedroom window of the Diggers' Rest Hotel. The landlord never disturbed them; but one time a thoughtless person from Melbourne, seeing two young birds in the garden, shot them. I am informed that Magpies started to build on semaphores at Diggers'

Rest, amongst other materials using clippings of insulator wires. Such structures being a nuisance, they were destroyed. My son found a nest at Woodend North placed on a tree stump, in a natural hollow. There we find both Black-backed (*G. tibicen*) and White-backed Magpies. In olden days about Sunbury Magpies did not eat flesh meat; now if the carcass of a sheep is strychnined one is sure to find dead Magpies around it. About the Sunbury country I have not known them to touch fruit of any description, but Mr. Shaw says at Tandara, near Bendigo, they eat ripe figs. Hitherto the only damage they did at Sunbury was to occasionally pull up sprouting corn, and they only did so when the season was dry. *Gymnorhina leuconota* is a bird remarkable in a number of ways. Much could be said about it. I will confine myself to saying that much can be learnt from them when kept in captivity. When fledglings are handled they void excreta. A pet Magpie kept by us stood in mortal terror of a slain hare or even its skin, and, if we followed up the bird with one or the other, it began to excrete. From that it is safe to assume that fear is the cause of young birds' behaviour when pulled out of a nest. It is common enough to find oval-shaped balls composed of the detritus of various insects. Once we thought such were excrement, but one day our bird was seen to eject one of these balls from its mouth. This bird had a wonderful memory. A hare was hung up in the kitchen; on seeing it she took a great fright, and ever after that never entered that apartment without first making a careful scrutiny from the door. With her clipped wing she managed to scramble up a quince tree to roost. One moonlight night, hearing our pet screaming, I ran down the garden, when she was found on the ground. Even after that she would come up to be placed on a cross beam in the kitchen or on the branch of a small willow alongside a chimney.

BUTCHER-BIRD (*Cracticus destructor*).—Still visits, though never knew it to nest with us. Saw nest near Lancefield, also young taken at Gisborne.

SRIKE-TIT (*Falcunculus frontatus*).—This was a rare bird about Red-stone Hill, but commoner in the box forests.

REED-WARBLER (*Acrocephalus australis*).—Has always been a summer visitor, and nests.

WHITE-THROATED THICKHEAD (*Pachycephala gutturalis*).—Somewhat rare, and never saw more than a single one at a time.

RUFOUS-BREASTED THICKHEAD (*Pachycephala rufiventris*).—Not common. I think it nests on our place.

WHITE-BROWED TREE-CREEPER (*Climacteris leucophaea*).—Occasionally by the creek.

BROWN TREE-CREEPER (*Climacteris scandens*).—In former days always found with us, away from water, in the timber; it has now been scattered about the plains. One was in the habit of roosting in the butt of a green tree hollowed out with fire. We caught it at night. I think it clung to roost in an upright position.

ORANGE-WINGED TREE-RUNNER (*Sittella chrysopera*).—A permanent in 1846 and for some years later, mostly in sheoaks in small flocks. A good 50 years have gone since this bird was seen, the trees having been removed.

WHITE-SHOULDERED CATERPILLAR-EATER (*Lalage tricolor*).—Can be called rare. Generally a pair lived, and I think nested, in the box trees in the valley where we lived.

SPINEBILL (*Acanthorhynchus tenuirostris*).—We were resident a good while on our station before a Spinebill appeared. It was always uncommon with us. While at Gisborne for two years I discovered its favourite haunt was amongst blossoming heath. On examination I saw that in order to extract honey it pierced the heath flowers just above their bases.

WARTY-FACED HONEY-EATER (*Meliphaga phrygia*).—We were many years on the area before this bird appeared. It yet comes occasionally in small flocks. Have met it near Gisborne, at Newham on timbered slopes, and beyond M'Ivor. The metallic clinking notes of this bird fall pleasantly on the ear.

WHITE-NAPED HONEY-EATER (*Melithreptus lunulatus*).—Formerly permanent on the block, now very rare. Two years ago a small party appeared on the old location. Immature birds have a chestnut-coloured cap.

BROWN-HEADED HONEY-EATER (*Melithreptus brevirostris*).—Was apparently permanent, and used to nest with us. As a bird its plumage has no beauty.

WHITE-BEARDED HONEY-EATER (*Meliornis novae-hollandiae*).—This handsome bird with black and white striped plumage, yellow on wings, with beard-like feathers on throat, was always seen when honeysuckles were in flower.

HONEY-EATER (*Ptilotis auricoma* ?).—This bird was the rarest of Honey-eaters, for I can only remember one visit of a very large flock during the fifties. They had seemingly massed together for the purpose of taking a long journey, which doubtless tired them out, seeing they were very tame, and one was knocked over with a stick. They were in the thick sheoaks on top of Redstone Hill. They made no stay.

WHITE-PLUMED HONEY-EATER (*Ptilotis penicillata*).—Plentiful in 1850, but now in diminished numbers, owing, no doubt, to destruction of timber along the creek. A quarrelsome customer amongst other small birds, and when one is creeping on Black Ducks it raises alarm cries, on which the Ducks take wing. When flying it seems to sing the words "You very well."

FUSCOUS HONEY-EATER (*Ptilotis fusca*).—In 1884 one was shot on Emu Creek. Plumage plain. In Brodie's Forest there was a bird, not numerous, whose call was "Arig-arig-a-taw-taw," a Honey-eater not unlike the above.

SINGING HONEY-EATER (*Ptilotis sonora*).—Calls "Put, put," then gives a "Chirr-r-r-r." We had been on the place some time before my father noticed it as a great rarity in 1846. Thereafter it became common, but in the end almost disappeared. At present on Jackson's Creek it is among the rarest of birds. The last one observed was two years ago, in the old fruit garden.

FRIAR-BIRD (*Philemon corniculatus*).—On one or two occasions a single bird appeared. They were numerous on the Plenty River, where, as a very small lad, I mind them making a great noise after a Hawk.

RED WATTLE-BIRD (*Acanthochæra carunculata*).—Still in evidence; appears in winter, sometimes in good numbers, and on occasions will yet nest in the old locality.

BRUSH WATTLE-BIRD (*Acanthochæra mellivora*).—An extremely rare bird, and has not been met with for a great number of years. As boys our name for it was "Charcoal Jack."

NOISY MINER (*Myzomela garrula*).—Not about Redstone Hill or Glencoe till comparatively recent times, when it appeared rarely. Some two seasons back a few came, made a long stay, and possibly nested.

BELL MINER (*Manorhina melanophrys*).—Very common on Jackson's Creek in 1846; gradually diminished, and the last half-dozen flew up stream as if bent on a journey, about March, 1854. From that date this bird has never revisited the region. Met with it on lower Campaspe in November, 1861. Heard it on Hughes's Creek, at Avenel, in 1844. Mr. W. Westgarth says it was on the Yarra at Richmond in 1840. I did not meet with it again until in Gippsland recently.

WHITE-EVE (*Zosterops carunculatus*).—This tame little bird was always a regular visitor, coming in a party that kept together. Occasionally it nested on the Jackson's Creek.

MISTLETOE-BIRD (*Dicaeum hirundinaceum*).—Three or four years back for the first time I saw this handsome bird on the old holding. The various eucalypts scattered around bore mistletoes not a few, some remarkably fine ones. As youths we were always on the quest, yet, curious to relate, we never saw a Mistletoe-Bird.

RED-TIPPED PARDALOTE (*Pardalotus ornatus*).—Once common; still appears occasionally. It used to nest with us.

SPOTTED PARDALOTE (*Pardalotus punctatus*).—Once frequent and nesting, but it disappeared in later years, though odd ones may still appear.

WELCOME SWALLOW (*Hirundo neoxena*).—With respect to visits, nesting, and numbers the same as it was 60 years ago.

TREE-SWALLOW (*Petrochelidon nigricans*).—Came to breed annually. Sparrows, with Starlings, have appropriated the few hollow spouts on my area, with the result that we never see this bird.

FAIRY MARTIN (*Petrochelidon ariel*).—Came to breed occasionally. In later years its visits seem more frequent. Latterly several nests under Bulla bridge, others under arch of stone culvert. Nested under eaves of huts in Riverina, but ants killed the young soon as hatched.

SWIFT (*Chetura caudacuta*).—Never a year passed without seeing them. Have seen them as early in the year as 23rd January. Some of my people asserted that they once saw these birds perched on stones.

PIPIT (*Anthus australis*).—Always in evidence, and has increased, owing to forest lands being cleared.

BUSH-LARK (*Mirafra horsfieldi*).—This Lark could not have been on the 15,000 acres of old, because if it had it could not have escaped our notice. First saw it at Newham about 1890, when its curious pepper and salt marked eggs were discovered. At times it comes to Redstone Hill, where it is recognisable by its peculiar jerky flight and its singing.

BROWN SONG-LARK (*Cincloramphus cruralis*).—A frequent visitor in good seasons; comes to breed. We dubbed it the "Cock-tailed Lark." On occasions this bird is fairly numerous.

SPOTTED-SIDED FINCH (*Stagonopleura guttata*).—This handsome Finch always to be found in small parties, yet with us never numerous. Bred on the place, and in one instance knew them to construct a winter roosting nest, into which the little fellows crowded at night. Disappeared for a long time, then lately some returned for a brief space. Noted at Woodlands, near Bulla, also at Gisborne.

RED-BROWED FINCH (*Eegintha temporalis*).—At Redstone Hill in 1846, and for many years, this bird in numbers far exceeded the former species. After nesting time it mustered in a large flock of perhaps 100 birds. Still present, but in diminished numbers; has ceased to be permanent, and has become a visitor only on Jackson's Creek. Have often seen its nests in former days seized by introduced Sparrows.

CHESTNUT-EARED FINCH (*Tenioptuga castanotis*).—This Finch was never indigenous in my part of Victoria, and only visited the area under consideration once during the fifties, and in that instance in large numbers. It would be in the spring season, because it bred and we took young ones. I met it again in Riverina in the summer of 1865, when surface pools were all dried up. They came in numbers to drink water placed out for them in an old frying pan, and it was amusing to watch the little fellows slaking their thirst.

WOOD-SWALLOW (*Artamus sordidus*).—A few still come to breed ; they came in swarms at intervals.

WHITE-BROWED WOOD-SWALLOW (*Artamus superciliosus*).—Not seen in later times on the old location. They came with the Sordid, and about 1850 Glencoe sheoaks were alive with both sorts, and many nests. Once saw a Masked Wood-Swallow (*A. personatus*) at Newham.

PICARIAN BIRDS.

LAUGHING JACKASS (*Ducelo gigas*).—In 1846 and there after permanently on the creek. Mr. E. Page, blaming them for taking eggs, shot some. Seemingly they deserted our line of creek then, returning again within the last few years : have nested in hollow spouts. This bird, about Newham and Lancefield district, appears to have increased. Never saw it killing snakes, while from the sharp eye it keeps on the corn stacks feel sure it destroys mice.

SACRED KINGFISHER (*Halcyon sanctus*).—Formerly constant, one pair nesting in a white box tree for long years. Never seen now.

AZURE KINGFISHER (*Alcyone azurea*).—Never plentiful. Found a nest once, drilled in face of earthy bank. Apparently extinct on Jackson's Creek now.

PALLID CUCKOO (*Cuculus pallidus*).—Hardly a season passed without getting a sight of it or hearing its call.

FAN-TAILED CUCKOO (*Cacomantis flabelliformis*).—Saw it on the area frequently.

BRONZE-CUCKOO (*Chalcococcyx plagosus*).—An occasional visitor. Wanton destruction of birds sometimes goes on when town lads are up for the day with guns. One morning I found a hat thrown in the creek with its band decorated with the wings of six distinct species of birds amongst them those of a Bronze-Cuckoo and a beautiful Grass-Parrakeet.

COCKATOO AND PARROT FAMILY.

BLACK COCKATOO (*Calyptorhynchus funereus*).—From 1846 to say 1850 a constant visitor on Jackson's Creek, which it followed down in quest of wattle grubs. Last seen on Emu Bottom, some three or four miles up stream. Of recent years saw one near Gisborne, and lately heard it is found in the forest country between Bullengarook West and Mt Macedon. Old teamsters stated it was a precursor of bad weather.

BANKSIAN COCKATOO (*Calyptorhynchus banksii*)—Two on Redstone Hill about 1849 ; one shot.

WHITE COCKATOO (*Cacatua galerita*).—An irregular visitant, generally in large flocks. Formerly its diet was divers forms of roots, but when tillage commenced and variegated thistles appeared it changed. In agricultural regions, where this bird is persecuted, self-preservation has become the rule, for on thistled and cultivated areas sentries are placed around. These are relieved, one leaving his mates to take the place of the sentry, which returns to the mob. About Sunbury three or four prospectors would come about for a few days, then go away, and before the week was out the main flock appeared. If their roosting places are found shots can be had soon after nightfall. The common and the variegated thistles were quite unknown in the Sunbury district until the latter was noted in 1847 at Main's, now Flemington Bridge ; the former at Redstone Hill in 1850.

ROSE-BREASTED COCKATOO (*Cacatua roseicapilla*).—About 1882 saw two or three. Regarded them as escapees from captivity. After that four were shot, which, on examination, showed that each had had a wing clipped.

before feathers had reached maturity. In 1901 saw a brace in a tall red gum below our house. This pair, from their actions, looked as if they had always lived in freedom, but it would not do to assert that they really had. Mr. John Hillary, a sharp observer, said that Galahs appeared at Greenvale, not far from Broadmeadows, during the year of the bad drought up North, but that season was a splendid one down South. These birds would be genuine visitors.

COCKATOO-PARRAKEET (*Calopsittacus novæ-hollandiæ*).—Not seen till 1853, about the begining of summer, when sheoaks on Emu Creek were literally alive with them, and a few years later some visited our place, when specimens were obtained. In 1870, my brothers stated the species was numerous at Lancefield, also that it bred there. Met with some at Newham.

BETCHERRYGAH (*Melopsittacus undulatus*).—Noted a small flock at Redstone Hill about 1850; probably seven years later in droves at Brodie's 5-Mile, near Fenton Hill (Bolinda Vale).

ROSELLA (*Platycercus eximius*).—Ever a permanent, but got scarce for a while. They nested on the place. Owing to extension of tillage Rosellas have now greatly increased.

CRIMSON PARRAKEET (*Platycercus elegans*).—Once permanent, but now met with in Gisborne, Newham, and Lancefield only. The wholesale or partial destruction of timber drives this species away.

BLUE-BELLIED LORIKEET (*Trichoglossus novæ-hollandiæ*).—Only a visitant; last seen at Redstone Hill about 1883, when it attacked fruit. Very common once on Conagaderer Creek, between Fenton Hill and Deep Creek, where it fed on honeysuckle blossoms.

KING LORY (*Aprosmictus cyanopygius*).—A very rare casual, one at a time, in immature plumage, being seen. Many years ago one came, a very wild bird, with tail only a ragged stump. There is a possibility that this Lory wears down its tail when nesting.

GREEN-LEEK PARRAKEET (*Polytelis barbata*).—A few came once. The white box country in Melton region I conclude was their favourite resort. Noted a brace there end of 1870. Mr. W. P. Best ten or twelve years later secured a pair about Bacchus Marsh. Noted a few in tree near Black Gully when going to Lancefield many years ago.

BLUE-WINGED GRASS-PARRAKEET (*Neophema venusta*).—Generally to be found in a small party. This Parrakeet might be counted rare; saw a few quite recently. Never knew it to nest in my part.

RED-BACKED PARRAKEET (*Psephotus haematonotus*).—None known for long years on area, and first observed on Glenara estate, near Bulla, in 1870, after which it appeared at Redstone Hill occasionally. Some noted in 1884. Not observed of late years. This Parrakeet was very common in the north of the State and in Riverina.

MUSKY LORIKEET (*Glossopsittacus concinnus*).—Always on the scene when eucalypts are in flower. Comes to the place yet to devour fruit. Seems to know when it is fit.

LITTLE LORIKEET (*Glossopsittacus pusillus*).—A very frequent visitor in small lots. Seems very affectionate, but has not visited the old locality for long years.

SWIFT LORIKEET (*Nanodes discolor*).—A frequent visitant. Some two years ago a large party came. Seems to diet extensively on the white waxy scales that abound on the leaves of the yellow box (encalypt). Those scales have a sugary taste; a small, soft insect is concealed under them.

PURPLE-CROWNED LORIKEET (*Glossopsittacus porphyrocephalus*).—One instance only where identity established. This bird was amongst the recent Swift Lorikeets. The writer has a recollection of taking Purple-crowned Lorikeets on Redstone Hill long years ago.

GAME BIRDS.

WILD TURKEY OR BUSTARD (*Eupodotis australis*).—In 1846 and years after abundant. Once counted 28 fly across from Redstone Hill to Glencoe sheoaks. The late Mr. Edward Page said they laid a single egg on the bare ground. Shot a brace about a third grown, and as they were quite by themselves concluded they were one clutch. This noble bird on the old area now the rarest. It may be counted extinct on plains south of Mt. Macedon. In 1869 saw a brace near Lancefield, winging south; previous to which year I never had seen these birds flying at such a high rate of speed. Hard seasons in the interior (1860 was bad) causes Turkeys, with other birds, to head southwards. My Riverina experience proved that a severe drought plays havoc with Bustards and Emus. The former died of sheer starvation; the latter became so weak that they could not get out of the way of a sheep dog.

SOUTHERN STONE-PLOVER (*Burhinus grallarius*).—In 1846 and for some years after permanent on the area, but nowadays casual. Before 1850 found a nest of two eggs on the bare ground. A visit shortly after proved the eggs had disappeared. Perhaps the bird had removed them or Ravens had destroyed them. Towards 1870 found two young ones on our land.

BLACK-BREASTED PLOVER (*Zonifer tricolor*).—In former days exceedingly numerous. The old squatters in our vicinity let them alone, but later on people began shooting them, with the result that they became scarce. Of late years they have increased somewhat.* As regards this Plover, closer settlement does not seem to affect it seriously, because it continues to breed in the old location.

SPUR-WINGED PLOVER (*Lobivanellus lobatus*).—Always rare on Redstone Hill, Glencoe, and Koorakoorakup. Out of bounds, when Melton swamps are full, we find it in small parties. When good seasons prevailed in Riverina the Spur-wing was fairly plentiful in the immediate vicinity of swamps. Doubtless it bred there.

STUBBLE QUAIL (*Coturnix pectoralis*).—Of old a few strictly permanent, at varying cycles very numerous, then years might elapse without seeing a bird. In later times they have frequently visited the old area. Quail are not migrants in the real sense of the word, for my conclusion is that they merely shift about, and I think they travel at night. Before 1860, passing over an adjoining farm after nightfall, heard more Quail-calls than ever heard before or since. A few days after,

* This autumn a sportsman reported seeing a large flock of several hundreds near Deep Creek.—E.D.S.

thinking to make a bag, I visited the spot, with the result that not a bird was to be seen. Probably they had come the previous night, rested for the day, and when darkness fell began calling for a fresh start.

BROWN QUAIL (*Syndactylus australis*).—Was permanent in small coveys on Jackson's Creek for long years. It totally disappeared from the old haunt, but some two or three seasons back I noticed a few near our old homestead. From this it will be noted that it is rare.

PAINTED QUAIL (*Turnix varia*).—Taken on Redstone Hill in 1854. The ones here (Drouin) are its exact counterpart. This single bird, found amongst bracken ferns, was the only one met with on the area.

LITTLE QUAIL (*Turnix velox*).—Whenever we have an extra good season this handsome bird appears, when it is seen on grass lands or growing crops.

COLLARED PLAIN-WANDERER (*Pedionomus torquatus*).—Evidently permanent; appeared very scarce; nevertheless, coloration, combined with habits, being so highly protective, possibly it was more plentiful than supposed to be. During my 60 odd years' experience on the three sheep-runs I have not seen half a dozen birds. The first was brought to us by our shepherd in the later forties. The next was taken about the middle fifties. Cattle putting up the bird, the grass being short, it was marked down and captured. When taken, curious to relate, it could not be induced to take flight, and all it did was to march about, occasionally extending its wings. It may be ten years since Mr. H. Coburn was seen with a living specimen taken on Rockbank station. In 1852 we found a nest with eggs, peg-top shaped; we did not sight the bird, but afterwards heard that they were those of the Collared Plain-Wanderer.

BLACK DUCK (*Anas superciliosa*).—Once common on our line of Jackson's Creek, where we found its nests, but of late years a rare visitor on that stream.

WOOD-DUCK (*Chenonetta jubata*).—Ever a casual, at times making a considerable stay, and still appears at odd times.

PINK-EARED DUCK (*Malacorhynchus membranaceus*).—One found on the creek about 1857. Very common in Riverina.

GREY TEAL (*Nettion gibberifrons*).—Always somewhat rare on the creek. Odd wing-weary birds still drop in. Exceedingly numerous in good seasons in Riverina, and nests.

SHOVELLER (*Spatula rhynchotis*).—An extremely rare visitor on the creek, not noted till 1854, when deluging rains in March of that year brought up swarms of Ducks, amongst them a few Shovellers. In that incursion were Black Ducks and Wood-Ducks, but the great majority were Teal. Three years ago two brace of Shoveller, in company with as many Teal, visited us.

WHITE-EYED DUCK (*Nyroca australis*).—In 1855 or 1856 I first saw this Duck on Jackson's Creek; since then it has been very rare. The bulge at the lower end of this bird's windpipe is far larger than that of any Duck that I am acquainted with.



Pool on Jackson's Creek, near Redstone Hill.

(The vegetation of the creek side is chiefly *Leptospermum* (tea-tree) and *Hymenanthera* (tree-violet), but *Eucalypti* (gum-trees) are characteristic of the hill slopes. A branchlet of their vertically hanging leaves is seen in the top of the picture.)

MOUNTAIN-DUCK (*Casarca tadornoides*).—Out of bounds on Melton swamps; two shot.

BRONZE-WING PIGEON (*Phaps chalcoptera*).—Came down Jackson's Creek about end of summer, but in the winter of 1854 were in sheoaks on Redstone Hill in goodly numbers. They moved down stream to Keilor or beyond. The late Mr. Edward Winter, who began farming there in 1843, used to shoot Bronze-wings about the site of the present township. Used to be very numerous on Koorakoorakup and Emu Bottom, on which last the late Mr. John William Page stated he bagged 30 in the course of a day. This Pigeon nested with us. Now it is very rare indeed.

BRUSH BRONZE-WING (*Phaps elegans*).—A brace only were known, about ten or twelve years back. I saw the chief distinction between it and common Bronze-wing was a liver-coloured patch on breast. Have seen this Pigeon on Mt. Macedon in thick scrubs where about the only chance of seeing the bird is when it crosses a track.

SNIPE (*Gallinago australis*).—Prior to 1850 Mr. Tom Perry bagged one, the only true Snipe to my knowledge that ever halted on our creek. There is a small Snipe-like bird on Melton swamps—that is, when they contain water. This bird goes in flocks, keeps in the open by the water's edge, occasionally stands on the half-submerged stones so close together that I have known nine to be knocked over at one shot.*

Occasionally birds of the Sandpiper tribe have appeared, but they were very rare. It is impossible for me to say what kinds they were.

OTHER AQUATIC BIRDS.

PECTORAL RAIL (*Hypotænidia philippinensis*).—Frequented Jackson's Creek; bred there, because I have seen young, unfledged birds. This Rail is a beautifully-marked bird: it yet appears as a rare casual.

WHITE-HEADED STILT (*Himantopus leucocephalus*).—Shot on Melton swamps and at Woodend North.

RED-NECKED AVOCET (*Recurvirostra novæ-hollandiæ*).—Seen once only, on swampy spot on Bulla road. In this instance one bird, but when Melton swamps were full I have seen them there.

CURLEW (*Numenius cyanopus*).—A specimen was once shot at Woodend North, presumably an accidental bird that had dropped out of the migratory flocks for some reason.

MOOR-HEN (*Gallinula tenebrosa*).—Found lots of their nests in swamp bushes in Riverina, built a few inches above water. The Pink-eyed Duck nests under similar conditions. Shot a Moor-Hen at Woodend North, the first and only one observed so far south. There is a dam at Woodend North, covering two acres fully, close to Mt. Alexander road, and on this water storage aquatic birds frequently are found.

BALI-COOT (*Porphyrio melanotus*).—In 1854 one was taken on the creek; another shot later on. This is a very rare bird, but I have frequently seen it at Melton swamps.

* Doubtless *Heteropygia acuminata* (Sharp-tailed Stint).—Eds.

COOT (*Fulica australis*).—Every large pool on Jackson's Creek, provided it had a good fringe of reeds, had one or two Coots. For years they were permanents; from personal observation nowadays they are not even the rarest of casuals.

MARSH TERN (*Hydrochelidon hybrida*).—Seen at Woodend North, where it was noted that this bird when alighting has a peculiar graceful action in folding its long wings. Having pitched on the ground the wings are extended upwards, then the pinions are shut down, after which both wings are closed. My theory is that it is done to prevent injury to the wings, for it appeared to me if not closed in that fashion they would strike the ground.

STRAW-NECKED IBIS (*Geronticus spinicollis*).—My first acquaintance with this bird was on the Murrumbidgee River, near Hay, in the sixties. In 1869 we had a terrible drought on Keilor Plains. No doubt this visitation was very severe up north, because Ibis, with some Wild Turkeys, were in evidence. Just about Christmas time, 1868, we had to move a flock of sheep to Mt. William, near Lancefield, where the animals remained till midwinter. One day a large flock of Ibis was seen wending south; from my Riverina experience they were identified. However, in 1866, Mr. Thos. Kissock, on whom my father called one day, was out with his gun; presently he returned with a pair of birds, no doubt utter strangers to him, seeing that he remarked—"They look very like Whaups" (the Scottish name for seashore Curlews). As the adjacent runs would be known to Mr. Kissock for close on 25 years, it seems clear that during all those years he had never seen an Ibis till then. Since 1869 we may count Ibis as frequent visitors in the Sunbury district, but in all cases their visits, in my opinion, are not the result of droughts up north. They must have largely increased since aborigines disappeared, consequently, the supply of food being overlapped, necessity has compelled them to travel. In late years they have visited Redstone Hill and roosted there at night. They are common enough at times in the Shire of Newham, where there are some large dams, on which I have witnessed them bathing in warm weather. Once a White Ibis (*Threskiornis stictopennis*) was noted there.

WHITE-FRONTED HERON (*Ardea nova-hollandiae*).—A somewhat frequent bird; never numerous; noted away from water, evidently in quest of grasshoppers and other insects.

WHITE-NECKED HERON (*Ardea pacifica*).—The "Curwin" of Delatite aborigines, and may be regarded as a rare bird, seeing we had been years at Sunbury before one was seen.

NIGHT-HERON (*Nycticorax caledonicus*).—Can be put down as a rare bird on Jackson's Creek. Occasionally an odd one still appears. Years ago the speckled bird was supposed to be a distinct variety, but ornithologists have discovered that it is the immature Nankeen Heron.

BITTERN (*Botaurus poicilopterus*).—Only one instance on our creek, in 1853; then thirty-five years after two were found in Emmeline Vale Swamp, near Old Gisborne; one shot, and its identity established.

SPONGBILL (*Platibis flavigipes*).—In 1858 one came to Jackson's Creek. In 1860, early in January, after three days' deluging rain, some of my folks went to inspect Melton swamps, when they found them swarming

with Gulls. A little later I went there to shoot. There were clouds of Ducks—Gulls were gone—but no Spoonbills. In 1895 the late Mr. James McAra Mitchell, manager of Rockbank, complained of Melbourne people shooting these inoffensive birds, leaving them lying about the swamps. Have seen Spoonbills on dams in Newham Shire. The water was very muddy; they stalked along, swinging their bills like clock pendulums, in search of insects, &c., beneath the surface.

WHITE EGRET (*Herodias timoriensis*).—One met with on Emu Creek, near Bulla, about 1855.

MUSK-DUCK (*Biziura lobata*).—One seen years ago on Jackson's Creek. In season of travel have noted up to ten at a time in a dam at Woodend North.

BLACK SWAN (*Chenopis atrata*).—Somewhat frequently appearing.

SILVER GULL (*Larus novæ-hollandiæ*).—When we have storms in winter from the south these Gulls sometimes visit the big dam at Woodend North. This reservoir is 45 miles from Port Phillip.

NATIVE COMPANION (*Antigone australasiae*).—At times seen on Melton Plains, but never in any numbers.

BLACK CORMORANT (*Phalacrocorax novæ-hollandiæ*).—This bird is an almost constant visitor, generally when the water is clear.

LITTLE BLACK CORMORANT (*Phalacrator stictocephalus*).—Same as above with respect to its visits.

LITTLE CORMORANT (*Phalacrocorax melanoleucus*).—This, as regards visits, is the same as the other two. Of the three sorts a party hardly goes beyond three or four, sometimes a brace, but more frequently a single bird. Cormorants swarm with intestinal worms, often of large size. These parasites appear to break into the fish as soon as swallowed. Inferentially they accelerate digestion, therefore we may conclude that the presence of the parasites accounts for the bird's voracity. Once fully a dozen birds pitched in a dam at Woodend North. They began working all abreast in an extended line, diving simultaneously. When one rose with a carp it tossed it in the air, caught the fish by the head, and bolted it. The other Cormorants often rushed to rob him. They evidently overgorged, for under roosting trees I have seen ever so many whole fish that they had ejected.

DARTER (*Plotus novæ-hollandiæ*).—One only seen on the creek, and shot. Another killed on a Murrumbidgee lagoon.

PELICAN (*Pelecanus conspicillatus*).—In 1876 one shot on Jackson's Creek and one at Newham. On extremely rare occasions they have been seen in broad daylight flying towards the sea-coast.

GREBE (*Podiceps*, sp.)—Cannot say if it is the Hoary-headed or the Black-throated species; possibly both *P. poliocephalus* and *novæ-hollandiæ* occur. Never knew it to nest.

EMU (*Dromæus novæ-hollandiæ*).—When we arrived at Sunbury, in 1846, Emus were gone, as far as our area was concerned. Tom Harrison, who had come with the Messrs. Jackson to Koorakoorakup in 1836, saw an old bird with 11 young between the present site of the Sunbury Asylum and Bald Hill. The late Mr. Lewis Clarke, who arrived about 1840, stated he ran down one at Fenton Hill (now Bolinda).

Birds of Ararat District.

BY G. F. HILL, WELLINGTON, N.Z.

PART II.

WHITE-THROATED TREE-CREEPER (*Climacteris leucophœa*).—Found in the timbered localities throughout the district, but more plentiful near the mountains than on the lower country.

BROWN TREE-CREEPER (*Climacteris scandens*).—A commoner species than the preceding one, especially on the scrubby ridges away from the mountains. The nests are often built in hollows very near the ground, and contain three or four eggs, usually the latter number.

BLACK-CAPPED TREE-RUNNER (*Sittella pileata*).—A rather uncommon bird. The nests are built in upright forks of dead branches and covered with small pieces of bark of the colour of the branch. Gum* is used freely in the construction of the nests, both to stick the foundation to the branches and to attach the small pieces of bark to the outside. At least four birds assist in the building of a nest.

SPINE-BILL (*Acanthorhynchus tenuirostris*).—This species is found throughout the district at certain times of the year, but during the nesting season it retires to the mountains.

WHITE-EYE (*Zosterops carulascens*).—A common bird during the fruit season, but one which is not often seen in the nesting period except in the mountains.

WHITE-NAPED HONEY-EATER (*Melithreptus lunulatus*).—A spring arrival, which, like the next species, arrives in small flocks, leaving again after nesting.

BROWN-HEADED HONEY-EATER (*M. brevirostris*).

BLACK-CHINNED HONEY-EATER (*M. gularis*).—Four birds only were noted here.

WARTY-FACED HONEY-EATER (*Meliphaga phrygia*).—In 1906 these birds arrived in flocks on 18th October, flying from the south, and eggs were taken on 25th and 30th November. Their arrival was later than usual, eggs being taken as early as 2nd October in previous years. The nests are built of rough pieces of stringy-bark (eucalypt) and grass, lined with fine bark, grass, and sheep's wool. They are invariably placed in the forks of stringy-barks about 25 feet from the ground. Three eggs are generally laid.

WHITE-EARED HONEY-EATER (*Ptilotis leucotis*).—Numerous at the foot of the mountains, but scarce in most other localities. They arrive in the early spring and leave again when the nesting season is over.

YELLOW-TUFTED HONEY-EATER (*Ptilotis auricomis*).—I am unable to say if these Honey-eaters arrive in pairs or in flocks, but I believe it is in pairs. Nesting commences in July, and continues through August, September, and October. The nests are generally built from 3 to 6 feet from the ground, in thick box scrub, and are made of bark, grass, and wool in varying proportions. When bark is used almost exclusively it is noticeable that the nests are large and roughly built, but when sheep's wool or grass predominates they are generally smaller and closely woven. Rabbit's fur, sheep's wool, grass, and bark are

* This is a secretion from the mouth of the bird.—EDS.

used for lining. The opening is always oval, varying in size from 2.15 x 1.40 in. to 2.65 x 1.87 in. Two or three eggs are laid, and, as in the case of the Fuscous Honey-eater a marked difference in the size and colouring of the sets is noticed. Two sets each containing two eggs measured respectively:—(a) .84 x .6 in. and .84 x .6 in.; (b) .94 x .69 in. and .94 x .7 in.

FUSCOUS HONEY-EATER (*Ptilotis fusca*).—This is one of the few Honey-eaters which remain in the district throughout the year. The nests are generally built of sheep's wool, grass, and spider webs, and are not lined. Sometimes bark is used with other materials, but as a rule sheep's wool forms the bulk of the materials used. One nest was found to be built almost entirely of bark and spider web and lined with grass and sheep's wool. Considerable variation in size was noted in these nests. Two built of similar materials measured respectively—(a) Inside, 1.55 in. across x 1.15 in. deep; outside, 2.5 in. x 2.5 in.; (b), inside, 1.7 in. x 1.75 in.; outside, 2.75 in. x 3 in. Three eggs are generally laid; the sets vary considerably in size and colour (this was noted particularly in 1906), .84 in x .6 in. and .73 in. x .55 in. being the extremes of measurement, and from pale pink with dark red markings to uniform terra cotta the variation in colour.

YELLOW-FACED HONEY-EATER (*Ptilotis chrysops*).—A common species.

WHITE-PLUMED HONEY-EATER (*Ptilotis penicillata*).—As a rule this bird is uncommon here, but in the year 1902 many of them visited the district and nested freely.

CRESCENT HONEY-EATER (*Meliornis australasiana*).—Another uncommon species, though they are numerous in the Grampian Mountains, some 34 miles distant.

WHITE-BEARDED HONEY-EATER (*Meliornis novæ-hollandiæ*).—A winter arrival, which commences nesting in the beginning of July.

NOISY MINER (*Manorhina garrula*).—Plentiful in the low-lying localities.

RED WATTLE-BIRD (*Acanthochæra carunculata*).—The notes on the following species apply also to this one.

BRUSH WATTLE-BIRD (*Acanthochæra mellivora*).—An early spring arrival, which comes to the district from the south in flocks of twelve to twenty birds. The nests are generally built in the thick second growth gum scrub shortly after arrival here, and as soon as the nesting is over they again collect into flocks and leave for the south.

SPINY-CHEEKED HONEY-EATER (*Acanthochæra rufigularis*).—A spring arrival, found almost invariably in the she-oaks (*Casuarina*) growing on the bare hillsides. I have no notes of their nesting habits, but I believe that they build in these trees. Like the White-bearded Honey-eater and the Crimson Parrakeet (*Platycercus elegans*) they are most destructive to the flowers of the native *Correa speciosa*, whether they be growing in the flower garden or in the bush.

BLUE-FACED HONEY-EATER (*Entomyza cyanotis*).—A rare bird here. In 1896 a pair laid two clutches of eggs in old nest of *Pomatorhinus temporalis*, but as a rule they do not appear until midsummer, when the eucalypts are in blossom.

FRIAR-BIRD (*Philemon corniculatus*).—These birds are scarce, and seldom build in the lower country, but appear to be more numerous in the vicinity of the ranges.

MISTLETOE-BIRD (*Dicæum hirundinaceum*).—It would be interesting to know how the mistletoe (*Loranthus*), which is now very plentiful, was spread over this area, for these birds are extremely scarce now, and unless they were formerly far more numerous they could never have accounted for the distribution of so much seed.

RED-TIPPED PARDALOTE (*Pardalotus ornatus*).—Common throughout the district. The nests are generally built in hollow branches, but are also found in burrows in the banks of creeks.

SPOTTED PARDALOTE (*Pardalotus punctatus*).—Numerous in the timbered localities. Various situations are selected for nesting purposes, but generally speaking mounds thrown up around rabbit-burrows in sandy soil are chosen. Frequently the burrows for their nests are made in the loam under the stumps of stunted box scrub; sometimes in the sides of prospectors' shafts or at the side of much-used sheep tracks. One instance was noted of a burrow being made in side of a fern basket hanging on a verandah. A pair nested three or four consecutive years in our fowl-run, the burrow in each case being located under the roots of box scrub.

SWALLOW (*Hirundo neoxena*).

TREE-MARTIN (*Petrochelidon nigricans*).—This species is plentiful in the low country, but the nests are usually built in almost inaccessible spouts of trees, consequently the eggs are seldom taken.

FAIRY MARTIN (*Petrochelidon ariel*).

WHITE-BROWED WOOD-SWALLOW (*Artamus superciliosus*).—A regular spring visitor, which arrives in large flocks in November.

MASKED WOOD-SWALLOW (*Artamus personatus*).—This species was fairly numerous in the summer of 1898, but I have no more recent notes concerning them.

WOOD-SWALLOW (*Artamus sordidus*).

GROUND-LARK (*Anthus australis*).

SPOTTED-SIDED FINCH (*Staganopleura guttata*).—Like the following species, this Finch is by no means plentiful. Nests may be found in all parts of the district.

RED-BROWED FINCH (*Eegintha temporalis*).—Occasionally seen in the scrubby country, but generally found near the mountains, where they nest along the tea-tree creeks.

WHITE-RUMPED SWIFT (*Micropus pacificus*).—A more regular visitor than the next species.

SPINE-TAILED SWIFT (*Chætura caudacuta*).

TAWNY FROGMOUTH (*Podargus strigoides*).—This bird is seldom seen now, but is said to have been more numerous some years ago.

OWLET NIGHTJAR (*Egotheles nova-hollandiae*).—This appears to be a rather common bird here. A harsh cry heard every sunny morning during the winter was for a long time difficult to locate, but, after the expenditure of some patience, an observer was rewarded by seeing one of these birds sitting at the mouth of its hollow, repeating its cry many times while it enjoyed the warmth of the rising sun.

BEE-EATER (*Merops ornatus*).—A summer visitor, found on flat, sandy country. Their burrows are made on the side of sheep tracks, or in the mounds thrown up by rabbits. The egg chamber is not lined.

BLUE KINGFISHER (*Alcyone azurea*).—This species is peculiar to the banks of the Wimmera, where nests may be found during December.

BROWN KINGFISHER (*Dacelo gigas*).

SACRED KINGFISHER (*Halcyon sanctus*).

PALLID CUCKOO (*Cuculus pallidus*).—This species, like the following, is rather uncommon here, and during the eight years over which my records extend I have no note of having taken an egg of either species, though a Fuscous Honey-eater was observed feeding a young Pallid Cuckoo on one occasion.

FAN-TAILED CUCKOO (*Cacomantis flabelliformis*).

BLACK-EARED CUCKOO (*Mesocalcius palliolatus*).—A rare bird, which may be recognised by its extremely high-pitched note. Its rich chocolate-coloured egg is generally deposited in the nest of *Chthonicola sagittata*, which egg it closely resembles in colour, though not in shape. From a friend in this district I lately received a clutch of three eggs of *Malurus cyaneus*, with which was also found one egg of *Mesocalcius palliolatus* and one egg of *Chalcococcyx basalis*. A fresh egg of *Mesocalcius palliolatus* was taken from a nest deserted a few days previously by a brood of *Chthonicola*. The colouring matter on these eggs is very soluble; it is therefore necessary to exercise care in cleaning them of their contents.

NARROW-BILLED BRONZE-CUCKOO (*Chalcococcyx basalis*). This is the most frequently met with of the Cuckoo family. The following may be mentioned as some of the foster-parents:—*Petræca leggi*, *Acanthiza reguloides*, *Malurus cyaneus*.

BRONZE-CUCKOO (*Chalcococcyx plagosus*).

BLUE-BELLIED LORIKEET (*Trichoglossus novæ-hollandiæ*).—An irregular summer visitor, which, as far as I know, does not build in the district.

MUSK LORIKEET (*Glossopsittacus concinnus*).—A common bird, especially when the eucalypts are in blossom. The hollows selected for nesting are usually inaccessible, and for this reason the eggs are not often taken. These remarks apply also to the next two species.

PURPLE-CROWNED LORIKEET (*Glossopsittacus porphyrocephalus*).

LITTLE LORIKEET (*Glossopsittacus pusillus*).

BLACK COCKATOO (*Calyptorhynchus funereus*).—Usually found in the mountains, but during the summer may be seen in any part of the district in search of the larvae of certain beetles which bore into the branches of the *Casuarina* trees. A cluster of *Pinus insignis* trees growing close to a house was visited periodically by a flock of these Cockatoos and the cones torn open to extract the seed which they contained.

WHITE COCKATOO (*Cacatua galerita*).—Numerous throughout the district during winter and spring. The principal food appears to be the larvae of a species of longicorn beetle which bores into the eucalypts after they have been rung, and small tubers which grow in damp localities.

COCKATOO-PARRAKEET (*Calopsittacus novæ-hollandiæ*).—An occasional summer visitor.

CRIMSON PARRAKEET (*Platycercus elegans*).—This species is also numerous here, but I took but one egg during the eight years over which these notes extend. It was remarked that only birds of mature plumage were seen in the mountains, but on the lower country both those of mature and immature plumage were found, though generally not in the same flocks. This peculiarity was also noticed by my brother in the Nagambie district (Goulburn Valley).

ROSELLA (*Platycercus eximius*).—The commonest and most destructive of the family represented here.

MANY-COLOURED PARRAKEET (*Psephotus multicolor*).—One small flock was seen in the southern portion of the district in 1904.

RED-BACKED PARRAKEET (*Psephotus haematonotus*).—Plentiful throughout the district at certain times of the year. Though some remain for the nesting, I believe most of them go further north to breed, and return again a few months later. The topmost hollow branches of tall dead trees are invariably chosen for nesting purposes.

BRONZE-WING (*Phaps chalcoptera*).—Said to have been extremely plentiful in the early days, but very scarce at the present time, no doubt owing to the destruction of the *Acacia*, which produced their principal food, and to the laying of poison for the destruction of rabbits.

BRUSH BRONZE-WING (*Phaps elegans*).—A bird was flushed from her nest, situated in the hollow trunk of a broken messmate (eucalypt), and one egg taken from it. This was the only specimen I was able to identify.

STUBBLE QUAIL (*Coturnix pectoralis*).—Not found often here, though numerous south of the district under notice.

PAINTED QUAIL (*Turnix varia*).—A single specimen only was noted.

LITTLE QUAIL (*Turnix velox*).—Of late years these birds have arrived in large numbers during the summer, and leave again after the nesting. The loud boom made at night by this small species of Quail sounds like the call of a much larger bird, and at some considerable distance away, though the author of it may in reality be perhaps not more than one hundred yards away.

PECTORAL RAIL (*Hypotænidia philippinensis*).—Seldom seen here, though probably more numerous along the course of the Wimmera River.

CRANE (*Antigone australasiana*).—Sometimes seen flying overhead in flocks of five or six birds, travelling in a northerly direction.

WILD TURKEY (*Eupodotis australis*).—A rare summer visitor.

STONE-PLOVER (*Burhinus grallarius*).—Fairly numerous on the timbered rises, but, according to old residents, they are less numerous than formerly, which may be accounted for by the increase in the number of foxes.

SPUR-WINGED PLOVER (*Lobivanellus lobatus*).—This and the following species are sometimes seen on the low-lying country during the nesting season.

BLACK-BREASTED PLOVER (*Zonifer tricolor*).

WHITE-HEADED STILT (*Himantopus leucocephalus*).—A single specimen only was noted.

SNIPE (*Gallinago australis*).—Rarely seen here.

STRAW-NECKED IBIS (*Geronticus spinicollis*).—A summer visitor which is generally seen on the wing.

YELLOW-BILLED SPOONBILL (*Platibis flavigipes*).—A rare visitor.

WHITE EGRET (*Herodius timorensis*).—One bird was noted.

WHITE-FRONTED HERON (*Notophoyx novæ-hollandiæ*).

WHITE-NECKED HERON (*Notophoyx pacifica*).—An occasional visitor.

LITTLE CORMORANT (*Phalacrocorax melanoleucus*).—A few birds may be seen along the Wimmera River and small creeks, but do not nest here.

BLACK-THROATED GREBE (*Podiceps novæ-hollandiæ*).—A nest containing four eggs was found on a small dam which I think belonged to this species.

BLACK SWAN (*Chenopsis atrata*).

WOOD-DUCK (*Chenonetta jubata*).—Usually found on the low country in the neighbourhood of dams and creeks, during the summer and early autumn, but most of them leave the district for nesting.

MOUNTAIN-DUCK (*Casarca tadornoides*).—A few pairs arrive in the early spring, and although they built regularly here I have been unable to collect any notes as to their habits.

BLACK DUCK (*Anas superciliosa*).—Like the following species, this bird is an occasional visitor.

TEAL (*Nettion castaneum*).

EMU (*Dromæus novæ-hollandiæ*).—Old residents inform me that in the early days these birds were very plentiful, but during my eight years' residence here only one specimen was seen. They are still found in the Grampian Mountains, which is the nearest point to this locality at which they may be now seen.

Bird Notes from Wilmot, Tasmania.

BY (MISS) J. A. FLETCHER, CLEVELAND, TASMANIA.

PART IV. (*concluded*).

(Continued from Vol. IV., p. 14.)

DURING the autumn and winter of 1905 the Hill Crow-Shrikes (*Strepera arguta*) came to this district, and remained until nearly springtime. They were certainly a great addition to our surroundings, and their merry "clinking" calls added a jovial tone to this our dreariest season. In the autumn of 1906 these birds returned for a brief period. As far as I could learn they retired to the less heavily timbered plains, 12 miles south, to breed.

The Ground-Lark (*Anthus australis*) is another of our summer visitants, but prefers other localities during the very wet and

frosty winters of Wilmot. I had much pleasure in watching their tripping movements amongst the grass in the early morning.

Consequent on the yearly increase of the scrubbed area, the Mountain or Ground-Thrushes (*Geocichla macrorhyncha*) are becoming very rare, and during this year I have not seen one, though I have had several scrambles in their favourite gullies. In previous years I have generally seen several, and found their old nests. As the forest is being cleared they do not return to their old nesting sites to build.

In one of my former papers I remarked that I wondered for what food the Spotted Ground-Bird (*Cinclosoma punctatum*) was hunting on the heathy ground. I have since discovered that it is a certain chrysalis which buries itself just under the surface of the ground. After a Ground-Bird has searched a piece of ground, the latter has the appearance of being covered with the broken shells of tiny brown eggs, the white inside lining adding to the deception.

Along the moss-grown banks of a now unused track cut in the face of a hill I found several old nests of the Brown Scrub-Wren (*Sericornis humilis*), also a nest that had been built and used this season. Very cunningly hidden are these nests. Often the entrance alone betrays the situation.

Above the same bank I watched a family of Black-headed Honey-eaters (*Melithreptus melanocephalus*) being fed. They were sitting on a branch, and, being rather weak, assumed such grotesque attitudes that they would have made an excellent photograph of baby bird life.

The White-eyes (*Zosterops cinnamomeus*) were frequent visitors to the fuchsias on the back verandah, despite the fact that the verandah joined the school.

Several members of the Hawk family were residents of the district, much to the disgust of the farmers during the chicken season. The Brown Hawk (*Hieracidea orientalis*) and Sparrow-Hawk (*Accipiter cirrocephalus*) were frequently circling overhead. They appeared to nest on the top of a high, scrub-covered hill, the latter species being frequently seen flying in that direction with something in its talons. I also found the situation of a nest of the Black-cheeked Falcon (*Falco melanogenys*) in the spout of a dead gum tree. The bird was sitting, and when returning to her nest always described a circle, flying round evidently for observation. If she observed me lying on the grass below she would utter some warning cries and fly away over the tree-tops. On the river levels and the lower lands I have often watched the Swamp-Hawk (*Circus gouldii*) circling above. Occasionally, a flutter in the Magpie world would betray the presence of a Wedge-tailed Eagle (*Uroaetus audax*), slowly flying across to the west.

Once in a way a Plover (*Lobivanellus iobatus*), and occasionally a Snipe (*Gallinago australis*), would find its way to the clearer lands, but after remaining a few days would again disappear. Several times a flock of Wild Ducks (*Anas superciliosa*) flew over, evidently making their way to the more open waterways several miles west.

I have now recorded all the birds which have come under my notice during my residence in this north-western district of Tasmania. Compared with other portions of the island the variety is very limited, and, owing to the dense undergrowth, observation is very difficult. Yet the pleasure of studying the bird life amply compensates for the hours of toil often incurred.

Notes on a Collection of Birds from the Townsend River, North-Western Australia.

BY ROBERT HALL, F.L.S., C.M.Z.S.

THE collection was made by my correspondent, Mr. J. P. Rogers, along the right and left banks of this tributary of the Robinson River. It was gathered in 1902, and I understand Mr. Rogers to have been the first field naturalist to visit the locality in search of birds.

Some of the species in the following list I believe to be new to North-Western Australia* :—

CACATUA GALERITA (Latham), White Cockatoo.

Terminal parts of chest and breast stained with pale brick-red. Adult male, 1/9/02.

CACATUA GYMNOPIST (Slater), Bare-eyed Cockatoo.

Throat, chest, breast, and wing coverts deeply stained with dull brick-red. Adult male, 8/9/02.

CACATUA ROSEICAPILLA (Vieillot), Rose-breasted Cockatoo.

Under surface very pale rose. Adult male, 29/4/02.

PTISTES ERYTHROPTERUS (Gmelin), Red-winged Lory.

Immaature male, 4/5/02. Interscapulum green, small portion only of upper wing coverts crimson.

PLATYCERCUS BROWNII (Temminck), Smutty Parrakeet.

Adult male and female. A well-defined red mark across forehead; cheeks bluish-white. Apparently this is a case of dichromatism.

CORVUS BENNETTI (North), Short-billed Crow.

Wing 11.3 inches.

* Cf. *Novit. Zool.*, xii., 1905, pp. 192-242.

HALIASTUR GIRRENERA (Vieillot), White-headed Sea-Eagle.

Adult male, 16/8/02.

HIERACIDEA BERIGORA (Vigors and Horsfield), Striped Brown Hawk.

Adult male, 8/8/02.

CERCIENEIS CENCHROIDES (Vigors and Horsfield), Kestrel.

Seven distinct crossbars on tail.

SYNOECUS AUSTRALIS (Temminck), Brown Quail.

a. Adult male, 8/9/02. *b, c, d, e.* Adult females, 31/7, 4/8, 29/8, 8/9/02.

TURNIX CASTANONOTA (Gould), Chestnut-backed Quail.

Two adult males, 3/8, 4/8/02.

HELODROMAS OCHROPUS (Linnæus), Green Sandpiper.

Adult female, 3/8/02.

EULABEORNIS CASTANEVENTRIS (Gould), Chestnut-bellied Rail.

Adult female, 22/4/02. Primary coverts, quills, and tail scarcely differentiated in colour from the upper wing coverts and back. Middle toe and claw, 1.9 inches; tarsus, 2.2 inches. This is interesting, as R. Bowdler Sharpe's "Hand-List" says doubtful to Australia.

NETTOPUS PULCHELLUS (Gould), Green Goose-Teal.

Adult male, 8/9/02.

HYDRALECTOR (sp.)? Jacana.

Unsexed, 6/8/02. Under surface white; pale narrow band of orange across chest; iris nearly grey on outer edge and grading into smoky-brown on inner; bill, tip and culmen pale brown, balance pale yellow; eyelids bluish; legs pale greenish; feet grey (Rogers). Total length, tip of bill to tip of tail, 7.5 inches; wing, 4.5 inches; bill and lappet, 1.25 inches; tarsus, 1.85 inches; middle toe and claw, 2.5 inches; tail, 1.6 inches.

DUPETOR GOULDI (?), Yellow-necked Mangrove-Bittern.

Male skin. Culmen, 2.9 inches; tarsus, 2.35 inches. Bill rather slender. No grey on upper surface (blackish-brown): no special gloss on upper surface; wing coverts edged with brown; row of feathers down throat brown in addition to black.

GEOPELIA SMITHII (Jardine and Selby), Naked-eyed Partridge-Pigeon.

a, b, c. Three males, 2/8, 24/8, 8/9/02.

OCYPHAPS LOPHOTES (Temminck), Crested-Pigeon.

Male, 21/4/02.

1907

MYZOMELA ERYTHROCEPHALA (Gould), Red-headed Honey-eater.

a, b, c. Adult males, 25/8/02. *d.* Immature male, 25/8/02. *d.* Chin, forehead, and cheeks faintly marked with red; upper tail coverts earthy-brown, with one red feather only; upper surface greyish.

CRACTICUS PICATUS (sub-sp.), (Gould), Pied Butcher-Bird.

Immature male, 27/8/02. General appearance earthen-grey and dull white.

GRAUCALUS HYPOLEUCUS (Gould), White-bellied Cuckoo-Shrike.

a. Adult male, 2/8/02. *b, c.* Adult females, 6/8, 12/8/02. The lores in *b* and *c* are greyish-black, dense black in *a*; throat pale grey. Beyond this, the remaining under surface in *a, b*, and *c* is pure white; flanks in all pure white.

ALCYONE PULCHRA (Gould), Purple Kingfisher.

Adult female, 29/8/02. Colour very intense. Centre of breast rufous, like chest and abdomen.

PACHYCEPHALA MELANURA (Gould), Black-tailed Thickhead.

a, b. Adult males, 26/8/02. *c.* Adult female, 26/8/02.

BURIIINUS GRALLARIUS (Latham), Stone-Plover.

Male, 14/8/02.

PHILEMON ARGENTICEPS (Gould), Silvery-crowned Friar-Bird.

Two adult males, 5/8, 12/8/02.

MALURUS ASSIMILIS (North), Purple-backed Wren.

Adult male, 26/8/02.

GLYCYPHILA FASCIATA (Gould), White-breasted Honey-eater.

Throat, sides of face, and forehead flushed with pale green.

RHIPIDURA PIASIANA (De Vis), Pheasant Fantail.

Adult male, 27/8/02.

RHIPIDURA SETOSA (ISURA), (Gould), Northern Fantail.

[See *Novit. Zool.*, vi., p. 425 (1899).] Adult male and female, 1/9/02. Primary wing coverts edged with white in male, almost imperceptibly so in female.

MYIAGRA RUBECULA (Latham), Leaden Fly-catcher.

Adult male and female, 5/8, 12/8/02.

STILTIA ISABELLA (Vicillot), Pratincole.

Immature male, 25/5/02.

CUCULUS PALLIDUS (Latham), Pallid Cuckoo.

Immature skin, 11/5/02.

Field Notes on Birds from Talbragar River, New South Wales.

BY THOS. B. AUSTIN, COBBORA.

PART I.

WEDGE-TAILED EAGLE (*Uroaetus audax*).—An occasional visitor. I have only known of three nests here, one of which was deserted before completed.

WHISTLING EAGLE (*Haliastur sphenurus*).—Very numerous, especially recently (20.4.07). I counted thirty-two flying practically in a flock. It is no uncommon thing to see half a dozen birds in the same tree. A great many of them breed here; I have several times seen two nests in the same tree.

SQUARE-TAILED KITE (*Lophoictinia isura*).—This species is seen occasionally, but I only have one record of it breeding here. I found a nest last 27th October with three young. The nest was in a large red gum by the river.

LITTLE FALCON (*Falco lunulatus*).—A few seen at all times of the year, but I have never known them to breed here.

BROWN HAWK (*Hieracidea orientalis*).—Very plentiful at all times, but I have found very few nests. The young birds are very numerous at present.

NANKEEN KESTREL (*Cerchneis cenchroides*).—Always a few about, but at no time of the year in great numbers, and I have no record of them nesting here, although I think it most probable that they do breed in this district.

BOOBOK OWL (*Ninox boobook*).—Very seldom seen, although it may be more plentiful than it appears to be.

CROW (*Corvus coronoides*).—Like the Raven (*Corone australis*), much too numerous, as they are a continuous trouble amongst the sheep, especially in the lambing season, although I must say they do a great amount of good in many ways, but not enough to make up for the damage they do. They both breed here, and always make their nests in the very largest trees.

GREY JUMPER (*Struthidea cinerea*).—One of the most common birds of the district. No matter where one may go a flock of these friendly birds may be seen, but, strange to say, I have never seen one in this locality with white eyes; they all seem to have dark brown. At times they are a great trouble in the garden, as they nip off young peas, &c., as soon as they show above the ground. They breed here, mostly in the pine trees, and in a few instances I have known them to go about a mile to get the mud for their nests.

WHITE-WINGED CHOUGH (*Corcorax melanorhamphus*).—Almost as plentiful as the *Struthidea cinerea*. I consider it a very useful bird to the country, although the farmers give it a bad name. They say it is very destructive on the young wheat crops, but I do not think it really does so much damage as people say.

MAGPIE-LARK (*Grallina picata*).—This also is a very common bird in these parts. There are always a great many about a dam just outside my garden fence. I tried to count them one evening, but

found it a rather difficult matter, as some of them were always flying. However, I was quite sure there were not less than seventy. Once while I was watching them something frightened them, and they all flew up from the edge of the water; some of them went into the trees, but fifty-one settled on a fence. In a very short time most of them were upon the ground again. They breed here in the red gum trees by the river.

GREY SHRIKE-THRUSH (*Collyriocincla harmonica*).—Not often seen in this district, although there are a few about, but I have never known them to breed here.

GROUND CUCKOO-SHRIKE (*Pteropodocys phasianella*).—Always a few about, but never in great numbers, and I have only one record of them breeding here, and that nest was within two hundred yards of my house.

BLACK-FACED CUCKOO-SHRIKE (*Grauculus melanops*).—A well-known bird throughout the district. They breed here, but, owing to the nests being so small, I have very seldom noticed them.

WHITE-SHOULDERED CATERPILLAR-EATER (*Lalage tricolor*).—Only a spring visitor, and not always then. If a good season a great number remain through the summer, but I have only once observed it breeding here.

BROWN FLYCATCHER (*Micreca fascinans*).—This graceful, active little bird is with us throughout the year, and nearly always found in pairs.

BLACK-AND-WHITE FANTAIL (*Rhipidura tricolor*).—A constant companion, and a great breeder in this district.

SATIN FLYCATCHER (*Myiagra nitida*).—Only to be seen here during the warmer months of the year, but never very numerous.

FLAME-BREASTED ROBIN (*Petracea phanicea*).—A few, but very seldom, may be seen during the winter months, but they never remain long.

RED-CAPPED ROBIN (*Petracea goodenovii*).—A few may be seen in the more thickly timbered parts, away from the river, but never numerous, and a few breed here.

HOODED ROBIN (*Petracea bicolor*).—The most common of all the Robins, and is always with us in great numbers. Although I have observed many nests in various parts of Victoria and New South Wales, I have not yet seen more than two eggs or young in a nest. This bird is seldom seen here in living trees; it appears to keep to the country where the trees have been killed.

REED-WARBLER (*Acrocephalus australis*).—Their loud warbles may always be heard during the summer in the sedges growing in the river, where their nests may be seen in great numbers if rowing in a boat. Very few of these birds remain during the winter months.

BABBLER (*Pomatorhinus temporalis*).—A permanent resident, and in great numbers. Their nests may be seen almost anywhere, with the exception of the trees by the river.

BLACK-BREASTED SONG-LARK (*Cincloramphus cruralis*).—This species is only an occasional visitor, generally appearing in a good spring.

RUFous SONG-LARK (*Cincloramphus rufescens*).—In a good spring this species is very plentiful, but some years not a single bird is to be seen. No record of a nest.

TRICOLOURED CHAT (*Ephthianura tricolor*).—Like many other birds, only a visitor in a favourable spring, when this beautiful little bird arrives about September in large flocks. Only one season have I known of it breeding here. In October, 1905, I observed four nests, all with eggs; these are the only nests of this bird I have seen in this district, and, strange to say, I discovered them all within an hour, while rabbit-shooting.

WHITE-FRONTED CHAT (*Ephthianura albifrons*).—Flocks of this species are occasionally seen, but they always appear to be travelling to some other part; I have never known them to remain here.

WHITEFACE (*Xerophila leucopsis*).—A permanent resident. They breed here, and one of their favourite places for building their nest is attached to the underneath part of the Whistling Eagle's (*Haliastur sphenurus*) nest.

BLACK-BACKED MAGPIE (*Gymnorhina tibicen*).—Always plentiful, but not in such large numbers as they are seen in some districts. They are far more numerous than the White-backed (*Gymnorhina leuconota*). They both nest here.

BLACK-THROATED BUTCHER-BIRD (*Cracticus nigrigularis*).—Generally one or two pairs breed here, but I have never seen many of them about, and very seldom do any remain through the winter.

BUTCHER-BIRD (*Cracticus destructor*).—In no part of the State have I seen less of this familiar bird. Although its nests are common in most districts, I have no record of one here.

BROWN TREE-CREEPER (*Climacteris scandens*).—A bird which is always with us in great numbers throughout the year.

ORANGE-WINGED TREE-RUNNER (*Sittella chrysoptera*).—Not often seen, and only once have I observed it nesting here; this nest I discovered before it was completed.

WARTY-FACED HONEY-EATER (*Meliphaga phrygia*).—About on an average this handsome Honey-eater comes in October one year in three; but this year it came in very large flocks about the end of March, and appears to be going to winter with us.*

WHITE-PLUMED HONEY-EATER (*Ptilotis penicillata*).—Perhaps the most common of all birds in the district. During the breeding season their nests may be seen in great numbers in the red gums and river oaks overhanging the river. This year I observed one with three eggs during the first week in March.

MINER (*Manorhina garrula*).—Little need be said of this well-known bird. It is very common here.

RED WATTLE-BIRD (*Acanthochæra carunculata*).—I observed a few of them nesting about one bend of the river last January. This is the only year that I have known them to breed here, although there are always a few about. They appear to be very partial to the trees by the river—seldom seen elsewhere.

* Should this bird winter in the district, a record of the fact would be of value and of interest.—E.D.S.

BLUE-FACED HONEY-EATER (*Entomyza cyanotis*).—Rather numerous, especially during the autumn. I have never known them to breed here, although I feel sure they do.

FRIAR-BIRD (*Philemon corniculatus*).—This species is a very common bird, and is one of the worst in the fruit gardens; it is a great trouble to the grape-growers. It is a permanent resident, and breeds in the river oaks. In the autumn they congregate in the trees by the river, and are exceedingly noisy.

RED-TIPPED PARDALOTE (*Pardalotus ornatus*).—This lovely little bird sometimes builds its nest in a hollow of a tree, but more often in a tunnel in the banks of the river and creeks. No matter how high the bank is the tunnel is always made within a foot or eighteen inches of the top, generally just above the clay and in sandy soil.

FAIRY MARTIN (*Petrochelidon ariel*).—They arrive here in very large flocks about September, and at once commence to build their peculiar bottle-shaped mud nests in great clusters under the overhanging banks of the river and creeks, sometimes in a partly burnt-out red gum tree leaning over the river.

TREE-MARTIN (*Petrochelidon nigricans*).—Only on two occasions have I noticed this species, about half a dozen in each flock, and I think they must have had young, as they were continually going in and out of holes at the top of two tall dead trees.

MASKED WOOD-SWALLOW (*Artamus personatus*); WHITE-BROWED WOOD-SWALLOW (*Artamus superciliosus*).—I have thought it best to mention these two species together, as their habits are so much the same, and they always arrive here in flocks of thousands together. I consider them (with perhaps the exception of the Straw-necked Ibis, *Carphibis spinicollis*) the very best friend amongst birds that the squatters have. The great numbers—in fact, countless millions—of caterpillars and grasshoppers that these beautiful little feathered creatures must destroy every day is without a doubt of wonderful benefit to the country. Although a few of the latter species remain here and breed, most of them, and all the former, depart for the breeding season.

TAWNY FROGMOUTH (*Podargus strigoides*).—The only one of the four which I know of in these parts. Although it is a bird very seldom seen here, its peculiar notes may often be heard on a still night, especially a little after sunset. I only once found them breeding here; the nest was upon a thick bough of an apple tree. I could see one bird sitting on the nest, and it was not till I was within a few feet of it that I detected a second bird, not more than a foot from the nest. I think there must be a great number of these birds breed here.

OWLET NIGHTJAR (*Egotheles nova-hollandiae*).—Though seldom seen, on account of its nocturnal habits, I think it must be rather common. It spends most of the day in hollow trees, from which it often flies out when one is travelling beneath with stock, only to be attacked by the Honey-eaters.

DOLLAR-BIRD (*Eurystomus australis*).—A summer visitor in considerable numbers. Arriving in October, it leaves again in March. I once found a young one on the ground, which had evidently left its home before it could properly fly, for I had no difficulty in catching it, and of all the noisy youngsters I have ever heard I must give the Dollar-Bird first place.

BEE-EATER (*Merops ornatus*).—Arriving in September, they soon set to work at their tunnels in the sandy soil, where large numbers of them breed. Amongst all the birds that visit us there are few, if any, more beautiful than the Bee-eater, especially their graceful movements of a bright spring day; their gold and green colouring flashing in the sun shows the bird off to great advantage.

An Ex-Victorian Collector's Experience.

FROM Seattle *via* Vancouver to Yokohama across the Pacific there is nothing of consequence to mention excepting a comparatively pleasant ocean journey in one of the famous "Empress" liners. The ten days' stay at Yokohama, and partly spent at the capital of Japan, Tokio, naturally, too, belong to the few of the more agreeable experiences of a half-the-globe-round journey. So might be classed the trip by rail and steam-boat to the island of Hokaido, in the north of Japan, to the famous and now historic port of Hakotaite, from whence the bulk of the Japanese army was conveyed to Corea during the war. A ten days' halt there, on account of bad weather delaying our specially chartered steamer *Stepney*, afforded an opportunity for a closer acquaintance with the Japs and their ways, mingled with a fair dose already of serious business in the shape of repacking, &c. From thence, on arrival of the slow but sure "tub," our party got under way and steam, coaling for the last time on the extreme north of the island, previous to plunging into the northern Pacific, towards our erstwhile goal, Kamtchatka.

The two days' stoppage afforded an excellent opportunity for making the acquaintance of those primitive peoples, the Ainos, who dwell in hovels here—an ancient Mongolian race, allied to the Samoyedes in the north of Siberia, whose female relations tattoo moustaches on their upper lips. Petropaulovski, a small settlement on Kamtchatka, historically made famous and called into existence through the great, intrepid late Com. Behring, Capt. Cherikoff, and the ill-fated naturalist Steller, previous to their setting out for the discovery of the mysterious Arctic continent, was reached after 16 days' hard struggle with the watery elements, by shaping a course parallel to the chain-like islands of the Lopatkas, which connect the north of Japan with the Peninsula, and form the eastern limits of the Okotsk Sea. During this transit our first misadventure—blowing a hole out of the only boiler—happened, the mending of which accounted for drifting helplessly about for two days and nights.

After final preparations, and the engagement of two Russians to act as hunters and guides, we steamed farther north, about 60 miles along the coast, that looked very much refrigerated at this

time of year (April), until we reached some likely bay, promising a field for sport—bear and mountain sheep. Further mishap was in store for us when attempting a landing, unnecessarily precipitated by the over-haste, displayed all along the line, of our leader. Of the three boats brought with us, the first put over the side of the steamer, owing to rough sea and bad anchorage, got smashed. The second, loaded to the gunwales, got swamped immediately. With the utmost exertion we managed to save our gear and equipment. The damage by sea-water was serious. At last we got under way in an ugly sea, rowing ourselves into a big bay. The steamer left us here to return to Japan and Okotsk Sea for trading purposes. On the way to a landing place, after six hours' hard work, we got waterlogged, the boats leaking like sieves. This completed our discomfiture. Eventually, after a big struggle and frequent grounding, and by walking and wading up to our waists in the icy-cold sea, along the shore, shoving the overloaded boats, we came to a suitable camping ground. Everything was ice and snow bound, and to get our loads up the icy slopes was no joke. From 4 a.m. till 11 p.m. we slogged and sweat our actual first day. This promised well for the future!

A week's stay at Bitchivinsky Bay, as this man- and God-for-saken ice-land is called, produced 8 bears and 2 sheep, and I did not get much rest or sleep tugging off and fixing up the hides and skulls of these brutes, not to mention the skinning and preparing birds. I had to shoot too. For about three weeks after, in daily stages of 20 hours' rowing and pulling in all sorts of sea and weather from bay to bay, along a dangerous coast, and not without narrow escapes, &c., we settled once more at another place, and no less desolate. There we erected a store camp, in which I was left behind by myself, whilst the others, taking the boats with them, went in search of happier hunting ground. Here I eked out a lonely and miserable existence for ten long days, with practically no nights, on account of the advancing season of the northern solstices. I was practically stranded and cut off from the world in case of disaster overtaking the others during their absence, being caged in on land by towering ice and snow-clad mountains to either side, and no chance of footing it anywhere in case of emergency. To my great relief the party hove in sight again, after the period mentioned, to take me up. Once more we faced the open sea, and landed some 30 or 40 miles farther north.

Here it was that a more serious disaster overtook us, by attempting a landing with a gale that had sprung up, and which dashed our boats in pieces on the rocks. So we were practically shipwrecked, besides losing much gear and provisions, as well as private accoutrements. By dint of resource and much exertion we managed to repair one of the boats sufficiently to

attempt the hazardous undertaking of trying to reach our store camp and bring provisions, which began to get scarce, except the everlasting bear flesh and mountain mutton. Here again, pending the return of the rest of the party for the purpose stated, I was left alone for 16 days. Summer had set in, however, with "might and main," with a most prolific springing up of vegetation, and a wealth of flowers such as nowhere else occurs, tropics not excepted—the only compensation for the millions of vicious, biting mosquitoes, as active in the day as during the night (or, rather, its equivalent).

The mosquitoes surpassed anything I ever experienced, and I am in a position to know and remember from Central Africa. They simply make life intolerable here, and one is glad when the cold winds set in again.

However, the party returned safely, having dodged the elements, and soon after, on 15th July, our steamer *Stepney* returned, according to arrangement, to take us up from here north to Anadir and the extreme east coast of Siberia. Here we bagged 20 bears and as many mountain sheep, not forgetting some seals, which on one occasion when hunting them threatened to swamp us by charging the boat. They are big brutes, and can become nasty customers occasionally.

We were steaming and coasting, landing occasionally for the purpose of walrus-hunting, for 34 days. After being much knocked about and driven north as far as the Arctic Circle, negotiating the Behring Strait, we reached Nome in Northern Alaska late in August.

A short stay here for refitting, and the old *Stepney* returned, or is supposed to have done so, to Siberia and Japan, and we embarked on a North-West American liner to go south-west to the Aleutian Islands, where we landed once more at Dutch Harbour. These islands are magnificent to look at, but not much for sport, except seal, fur and other. Our stay was brief, for a 5-ton schooner awaited us to take us back to the Behring Sea, north of the islands, to look for polar bear, but which we never sighted. More walrus here, and I do not want another experience with these flippered and tusked lumps. This was a poaching excursion, as their hunting and bagging is prohibited in these waters, so we had to keep quiet and dodge revenue cutters! After this bit of by-play we rounded the Alaskan Peninsula, and made the Island of Kodiak, where we re-equip in order to sail north again into Cook Inlet for hunting the quaint-looking and mighty moose. A week's sailing and tossing brought us to the Kenai Peninsula, where the real fun began, if a series of disasters may be called so. Seven attempts did we make going up the River Kassilof, to reach the Glacier Lakes and that of the Kenai River. We came to grief twice by upsetting on the rocks and in the rapids. I lost all except what

I stood in, and seeing that towing was too hot work to wear a coat, which I left in one of the boats, I even lost this. For four days I was in shirt sleeves, which is not exactly a warm feeling on these early autumn nights. Lost our best rifles and guns too, and best part of ammunition. But we persevered after re-equipping at the stores connected with the Salmon-fishing Company at the mouth of the river, and finally, after prodigiously hard work, each man having nearly a hundredweight on his back to carry over the roughest of ground—impenetrable timber and scrub, as well as tundra—we secured our beasts. The never-to-be-forgotten grandeur of the scenery and superb sunsets, unsurpassed by anything I had seen elsewhere, fell flat. They were not properly appreciated on account of the hardships we endured in the hunt—it was all toil. The season being well advanced (October), it was advisable to make our trail before being caught in the grip of the winter, which sets in very soon, and so we turned the head of our schooner back. Again we got nearly wrecked, and thought it was our last hour, on Cape Elizabeth, in a gale, in which the strong current drove us rapidly on to the rocks, where so many craft have been lost before. However, we got off safely, and only just in time, and reached Kodiak, where we had to wait a week for a steamer. The previous one, the *Oregon*, went down, and so did the one following us, as we learnt when in New York.

But we were to experience a frightful gale yet before getting to Seattle, 14 days' steaming, and things looked very queer at one time. But what a revelation after the storm, in a clear atmosphere, along the mighty ranges of Mount St. Elias and into Icy Bay, up the Skagway, into hundreds of miles of glaciers down to a sea blocked with icebergs, and then, after Juneau, the beautiful forest-clad inside passage of the British Columbian coast—a fit *finale* to a turbulent holiday excursion of seven months, with not an hour's illness, and except bruises I feel none the worse, thank God!

New Variety of *Zosterops*.

BY DR. GEORGE HORNE, MELBOURNE.

ABOUT eighteen months ago Miss Bowie had in her aviaries a grey *Zosterops*, or White-eye. Unfortunately it died, and was destroyed by a pair of Amherst Pheasants.

Last month we were fortunate enough to obtain another specimen from Morang (Victoria), where the bird-catcher tells me he has often seen them. It forms a marked contrast to *Z. corulescens*—the olive-yellow being replaced by grey. The markings on the primaries are different and the abdomen

darker. The wings are longer and the tarsus shorter than in *Z. carunculatus*, and the bird appears rather slighter in contour.

The British Museum Catalogue describes 85 varieties of *Zosterops*, but the only one approaching it is *Z. cinerea*, of Kushai and Ualau Islands. It differs, however, in many respects—notably in the lighter grey upper parts, badly marked eye-ring, brown tail, and yellowish feet. The tarsus, also, is very long.

The following is a detailed description of the new bird:—General colour above, dark ashy-grey on crown, nape, hind-neck, and back; upper tail coverts slightly lighter grey; wing coverts brownish-grey, edged on outer web with lighter grey; primaries grey, edged on outer web with fine margin of dirty-white, and on inner margin with broader band of the same colour; quills very dark brown above, but whitish underneath; forehead slightly darker grey than crown; lores marked with a black streak, which is continued to encircle the lower half of the eye; a ring round the eye of silvery-white feathers, very distinct; ear coverts like the head; cheeks paler than the head; chin and fore-neck ashy-grey, of a lighter colour than the back; breast, abdomen, and under tail coverts of a uniform light grey, somewhat lighter than the neck; sides of the body and flanks light chestnut; thighs like the abdomen and under tail coverts; tail grey, similar to primaries, but not edged on inner web, and edged on outer web with light grey; upper mandible grey; lower mandible light grey; feet slaty-grey; iris brown.

Dimensions in inches:—Total length, 4.5; wing, 2.7; tarsus, .5; tail, 1.8; culmen, .4.

I purpose calling this variety *Zosterops bowie*, or the Grey White-eye.

Stray Feathers.

CAPE BARREN GEESE.—My friends in Launceston state that it is not an uncommon sight to see these Geese at different spots down the river (Tamar). During a recent visit I had the pleasure of seeing between 20 and 30 of these fine birds feeding in a stubble field, which was on the fringe of a large reed-bed and morass, near that river.—T. HURST. Caulfield (Vict.), 9/5/07.

* * *

STONE-PLOVER IN TASMANIA.—During a recent (Easter) trip to Tasmania, and whilst taking a drive from Launceston to Rosevear's, I saw fully 30 Stone-Plover feeding contentedly in a stubble paddock. I was not aware that the Stone-Plover was found in Tasmania.—T. HURST. Caulfield (Vict.), 9/5/07.

[The first report of the Stone-Plover having been found in Tasmania is contained in *The Proc. Roy. Soc. Tasmania*, p. xxii.



Nests of White-fronted Heron (*Notophoyx novaehollandiae*).

(1.) With young and egg just chipped. (2.) With eggs.

(These photographs were taken under most difficult circumstances, in tree-tops (red-gum eucalypts) in Riverina.)

(1894-5). A pair was obtained at Spring Bay, April, 1895. On Mr. Hurst's evidence the bird may no longer be considered "accidental" to the island, but indigenous.—EDS.]

* * *

EAGLES.—A pair of Wedge-tailed Eagles is generally to be seen on the summit of the Buffalo Mountains. The surveyor, Mr. O. A. L. Whitelaw, informs me that whenever he places a red flag as a trig. mark on a pole at the top of the Horn or the Hump these Eagles tear the flags to pieces, often within two hours of their being erected. Whether the birds object to the flag because it is red I cannot say, but Mr. Whitelaw was going to place a white flag on the pole, hoping it will not share the same fate as the red ones. I saw the claw marks of the birds on the pole when examining the torn remnants.—D. LE SOUËF. Melbourne, April, '07.

* * *

TWO CUCKOOS REARED IN ONE NEST.—In a letter lately received from my friend Mr. F. L. Berney, North Queensland, he makes the following statement:—"I made an interesting discovery a few days ago—a Crow's nest containing a young Crow and two young Scythrops or Channelbill Cuckoos, all appearing strong and healthy, and will be leaving the nest in a few days." The above note is of great interest, and it would be helpful if our other Queensland members would state whether they have noticed the same thing. If so, it would seem as though some Cuckoos' habits vary, the early habits of this particular bird being evidently well worth studying.—D. LE SOUËF. Melbourne.

* * *

THE HABITS OF TREE-RUNNERS.—Concerning the inquiry in connection with the habits of Tree-runners,* I may state that I have observed both the male and female of the Black-capped Tree-runner taking part in incubation. We only have the one species (*Sittella pileata*) in our district, and they are very peculiar in their habits. They generally go in small flocks of eight or ten, and I have never seen more than one nest in connection with one flock. More than one pair (possibly the whole flock) help to build the nest. They often remove their nest when built: I have watched them on different occasions pull the nest to pieces and remove it about 100 yards or more, for reasons best known to themselves. The nest is often finished for two or three weeks before they commence to lay eggs, but this is not always the case. Only the one pair feed the young ones, so far as I have been able to observe.—J. A. HILL. Kewell, Victoria, 7th April, 1907.

* See *Emu*, vol. vi., p. 183.

HAVE BIRDS FIXED ROUTES IN MIGRATION?—In March last a Rufous Fantail (*Rhipidura rufifrons*), that handsome, delicate denizen of the mountain gully, appeared in the garden of the School of Horticulture, Burnley, evidently *en route* from the ranges to its winter haunts in the tropical scrubs of Queensland. On 12th December last year a single bird appeared, and stayed in precisely the same part of the garden for a day or two. It is impossible, of course, to say that this is the same bird, but I suggest that it is, and that it passed the same spot on its outgoing as on its incoming journey. Referring to my note-books I find I have records of solitary specimens of Rufous Fantails in the same locality as far back as the year 1896. All the records are in the months of either November, December, or March.—A. G. CAMPBELL. Melbourne, April, 1907.

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DO BIRDS REASON?—The following anecdote about the Blue Wren suggests to me that they do. About our old homestead, near Sunbury, Blue Wrens were always common and very friendly, being easily attracted to the very doorstep by throwing out a few crumbs. One day a fine male appeared in company with his spouse and a brood of young birds. Some scraps of bread were thrown out for them to feed upon. One of the youngsters picked up a largish piece and endeavoured to swallow it. The male, seeing this, quick as lightning dashed in and took it from the other's mouth. Judge my surprise on seeing the parent, instead of swallowing it himself, proceeded to beat it up into small pieces to allow the young one to eat it without the danger of choking itself.—ISAAC BATEY. Drouin, April, 1907.

* * *

ROBINS IN AUTUMN.—On the 17th April, rather later than usual, the Flame-breasted Robin (*Petreca phoenicea*) appeared in numbers in the immediate vicinity of Melbourne, the proportion of red-breasted males in the flocks being about one to twenty. The majority, as is always the case, are either females or immature males, and are of a very deep brown hue, which will in about a fortnight wear to a greyish-brown, more in harmony with the grey soil they love to frequent. A few days later a solitary specimen of *Petreca rhodinogastra* in brown plumage was observed. I strongly suspect that this species is much more common about the metropolis in winter than is generally supposed, for it is easily mistaken for the female of *P. phoenicea*, which it resembles at a distance, but it differs in being smaller, deeper in colour, and with a brownish mark on the wing instead of white, and in frequenting thick growths about the gardens or forest instead of the open country.

I have a note of some negative importance concerning the summer habitat of *Petræca phanicea*. During an ascent of Mt. William, in the Grampian Mountains, in the western portion of Victoria, an elevation of 3,827 feet above the sea, no Robins at all were seen. This was in March. There were none either in the low country, though later in the year they come about the farmsteads in small flocks. The highlands of eastern Victoria are abundant with the species all through summer, when they are not seen in the lowlands. However, on 8th May, when another visit was paid to the locality, several Flame-breasted Robins were seen about the foot of the mountains, where the stationary species (*P. leggii*) is found all the year round. High up on one of the peaks, at an elevation of 2,500 feet, but in the shelter of a tea-tree gully, I was surprised to meet with a female *P. rhodinogastra*. This is a previously unrecorded species for this area.—A. G. CAMPBELL. May, 1907.

* * *

SOME TASMANIAN BIRDS.—With regard to the suggestions in *The Emu*, vol. vi., page 210—"Why should all Flame-breasted Robins leave lowlands at the approach of spring, and repair to the elevated regions and Tasmania to breed?" What evidence is there that these Robins do migrate? They certainly appear to remain with us all the year. Mr. Hubert Thompson has found six or seven of their nests within a small radius of Launceston, and, as to altitude, the highest would probably be not much over 300 feet above sea level. He has also seen a few pairs in this district in midwinter, but the bulk of them seem to go to our coasts in the autumn, and remain there until next nesting season. It is not at all uncommon at Devonport and Table Cape, on the North-West Coast, to see twenty of these birds feeding in a small paddock, the minority only having the coloured breast, the remainder (hens and young males) being perfectly plain. Mr. Thompson has seen them congregate thus at Georgetown, near the mouth of the Tamar River. At the approach of the warm weather they disperse, and seem to prefer breeding away from the coast. The observations, extending over a number of years, of my friend and self point to the probability of the male of this species not assuming its striking colours until at least the second year, quite probably the third. In their autumn and winter gatherings the sober-tinted birds, as stated, are always in a large majority.

"Why should Kingfishers be absent from Tasmania?" I have frequently seen the beautiful little *Alcyone azurea* on retired streams, which are seldom visited, and do not doubt that it would be much more common were it not shot at sight for its skin—another argument for the speedy imposition of a gun tax. There seems no reason why the *Halcyon sanctus* should not

flourish if introduced and protected from gunners for a few years.*

As to the absence of the Lyre-Bird, it seems to be extremely probable that the Lyre-Bird originally existed here, but was killed out by the tiger-cats and devils, which are still plentiful in the forest gullies, and were without doubt far more so in the old days. In a small island like this a prominent bird such as *Menura* would not stand the chance of a lengthy existence in the presence of so many bloodthirsty foes, and may have been exterminated a good many centuries ago. Probably the aborigines, who were also numerous, would assist in its extinction, as the flesh would be to them a welcome change from kangaroo and shell-fish.

The introduction or re-introduction of the *Menura* would be a most desirable event, but I question if even now the bird could make a stand against its enemies, unless for the first few years it could be protected in large enclosures.—H. STUART DOVE. Launceston, 10th May, 1907.

* * *

BIRD LIFE ON THE BUFFALO MOUNTAINS IN MARCH.—Bird life is not plentiful on the Buffalo Mountains, probably on account of the cold during the winter, they being at an elevation of about 4,500 feet above sea level. A fine pair of Wedge-tailed Eagles (*Uroaëtus audax*) have made the range their home, and are often to be seen circling high above the topmost peaks of the mountain. They have a curious and decided objection to the red flags of surveyors. The rare Black Falcon (*Falco subniger*) was also noticed on one occasion, that being the only other bird of prey seen besides the Eagles. Ravens (*Corone australis*) were in evidence, but were not numerous. Boobook Owls (*Ninox boobook*) were also heard calling at night. A pair of White-backed Magpies (*Gymnorhina leuconota*) had a nest in the belt of timber at the back of our tent. Perhaps the most plentiful of the larger birds was the Grey Crow-Shrike (*Strepera cuneicaudata*). Mr. O. A. L. Whitelaw, the geological surveyor, mentioned an interesting fact to me regarding these birds, as well as of the White-winged Chough (*Corcorax melanorhamphus*). He had set some "figure of four" traps for them and caught one or two, but no more. The others seemed to have seen the fate of their companions, and when the trap was reset they gathered about it and inspected it carefully, then one of the Crow-Shrikes cautiously went up, and, lifting up the string of the noose gingerly, put it on one side and took the bait, of course without getting caught. The Choughs followed its example, so my

* *Halcyon sanctus* is a migratory bird, and does not winter even in Victoria. Attempts have been made to rear young in captivity in Melbourne, but they have perished when the cold weather arrived.—EDS.

friend had to give up setting that particular kind of trap. Grey Shrike-Thrushes (*Collyriocincla harmonica*) were plentiful, and their delightful notes were often heard; they were very fearless. One pair had their usual bark nest in a small hollow at the side of a huge boulder of granite, and where it was perfectly sheltered and well out of reach—a very safe place, as no enemy could get to it. At the foot of the mountain the nest of a Ground-Thrush (*Geocichla lunulata*) was noticed, built of moss, but no birds were seen. Several Flame-breasted Robins (*Petroica phoenicea*) were generally on the open ground in front of the tents, and only one Pipit (*Anthus australis*) was noticed. Blue Wrens (*Malurus cyaneus*) were seen on several occasions, as well as the Rufous Fantail (*Rhipidura rufifrons*) and Brown Tit (*Acanthiza pusilla*). We saw several pairs of Spotted Ground-Birds (*Cinclosoma punctatum*), and they were also very tame. In the scrub by the creeks, on the way up the mountain, the cheery call of the Pilot-Bird (*Pycnoptilus floccosus*) was heard on several occasions, also that of the Butcher-Bird (*Cracticus destructor*). The White-naped Honey-eater (*Melithreptus lunulatus*) was seen, and also the White-throated Thickhead (*Pachycephala gutturalis*), Bell Miner (*Manorhinia melanophrys*), and Red Wattle-Bird (*Acanthochera carunculata*) as well as the Gang-Gang Cockatoo (*Callocephalon galeatum*) and Crimson Parrakeet (*Platycercus elegans*). The beautiful clear note of the Lyre-Bird (*Menura victoriæ*) was often heard, and on listening to one at his playing mound in the scrub we noticed what a wonderful mocking-bird he was, and how quickly he passed from the note of one bird to that of another, almost running one note into the other. These birds are apparently being slowly but surely killed out by the foxes.—D. LE SOUËF. Melbourne, 25th April, 1907.

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BLACK-CHEEKED FALCON AND PIGEONS.—Yesterday, 19th April, I witnessed a sight that was full of interest and a great object lesson in regard to instinct among birds. A Falcon being observed hovering near the Pigeon-house, my son ran for the gun, and by the time he had got it and a couple of cartridges the bird had risen to a good height, far beyond gun-shot. As it continued to ascend higher and higher by soaring in circles we observed seven of the Pigeons above the Falcon, circling also to attain greater altitudes. This continued for several minutes until both the bird of prey and its frightened sky-mates appeared very little larger than Sparrows. The design of the Falcon was to me apparent all through the proceedings. His object was to reach an altitude above that of his intended victim, so that the necessary downward swoop could be accomplished. The Pigeons obviously were aware of the plot, and were just as anxious to keep above their enemy. When at an immense

height suddenly two Pigeons left the other five and struck out across the sky. Quick as lightning the Falcon followed. The two Pigeons separated, and their enemy's chance had arrived. Singling out the bird on the right, the Falcon quickly lessened the gap between itself and its victim. The poor Pigeon, evidently noting this, headed for some tall pines in a thick plantation, and when over them, though many hundreds of feet above in the clear sky, closed its wings and dropped. Though the Pigeon was a good distance in advance, by the time it came over the pine tops (about 80 feet high) the Falcon with a downward swoop reached to within a yard of it. This ended the scene for us, as both birds were lost to view. Having no doubt the Falcon had caught its intended prey, we hastened to the spot, expecting to see it on the ground feasting. We searched about everywhere, but no trace of either bird could we find. Two hours later, just as the sun was setting, my boy said his Pigeon had returned, and on catching it we found it severely maimed on the right breast, just under the wing. The wound had the appearance of having been caused by contact with some object, and I am of opinion that a pine branch or other obstacle had been struck with terrific force by the poor bird in her last supreme effort to evade her murderous pursuer. It was indeed a grand sight, and that downward swoop of the Falcon's was something never to be forgotten. The noise must have been considerable, though we were too far away to hear. The swoop must have been from 800 or 1,000 feet elevation. I have had many experiences of this Falcon chasing its prey of different kinds, but no previous experience from start to finish could compare with this. I once saw a bird chasing a flock of White Cockatoos, and so frightened were the flock that I fired four shots and killed half a score of them before they realised that I was an enemy also. In this case the Falcon settled on a neighbouring tree, and made off on the first two barrels being discharged. On a second occasion I saw a Falcon attacking a flock of Black Cockatoos. This time I tried to shoot the bird of prey, but it would not allow me to approach near enough. I have also seen these Falcons catch and kill a White-fronted Heron, but this was a very easy task, the Heron being so slow. I do not think this Falcon ever takes a bird from a sitting position, as I have observed in the case of the Cockatoos and Herons that as soon as its intended prey alights it does so also, or else soars around until the frightened birds again take wing. The final act is usually accomplished with a swoop. Falcons, both White-fronted and Black-checked, are extremely rare here, and hence opportunities for observing their mode of securing their prey are divided by long years in most instances. I have also frequently witnessed the Brown Hawk and Goshawk, also the fierce little Sparrow-Hawk, catching birds, but though very

interesting and instructive to a bird observer, it is quite a mild affair when compared to the thrilling sight I have endeavoured to describe of a Falcon at the same game.—GEO. SHEPHERD. Somerville, 20/4/07.

* * *

WEDGE-TAILED EAGLE AND LAMBS.—My experience of this magnificent bird dates from 27th of January, 1846, on which date we arrived at Redstone Hill, a small sheep-run close to the present Sunbury. Although very young at the time, it is well remembered that Wedge-tails were exceedingly numerous ; hardly a day passed without seeing them. The birds were terribly destructive at lambing time, so much so that if green lambs were not closely watched the number would have been greatly reduced. With all our vigilance lambs were sure to be killed, not when the shepherds were on guard, but when their backs were turned. In 1849 my father obtained strychnine, consequently when lambing began on the Emu Creek next season he played havoc with the Wedge-tails, as may be judged by the fact that I had fourteen dead ones laid out in a row, two of which, to the best of recollection, had fallen to the shot-gun. Doubtless more than specified were poisoned, for Brodie's Forest came to the opposite side of the Emu Creek ; besides, there were timbered lands on our side of the stream. The above-mentioned were not searched, hence it is reasonable to assume that more dead birds would have been found. Now, with reference to the slaughter of lambs by Eagles, though my experience embraces six decades, I never saw a lamb actually killed by one of these birds. On this point all that can be said with any degree of certainty is that the Eagle in all cases had driven his strong talons into the brain of the victim. The skull of a lamb at birth, and for some time afterwards, is exceedingly fragile ; the muscular development of the bird's legs is very great, while its talons are keen, sharp, and long, and as a natural sequence when pressure was applied the Eagle's claws went into the lamb's brain with ease, leaving marks like pellets of shot. In my experience I never saw a lamb's skull crushed up. Judging from a Wedge-tail which we kept in captivity for some years, the bill, powerful as it seems, is not an offensive weapon. This bird was taken as a fledgling from a nest built in a tall tree beyond Mt. Aitken homestead. We used to keep it secured with a dog-chain affixed to the top of a stump. Frequently the bird got loose, but, as one wing was always clipped, recapture was easy enough with the aid of a cornsack. Throwing this over the escapee he was muffled up tightly, then a firm grip was taken of both legs above his ankles. It would close its beak on my hand. A Musky Lorikeet can nip sharply enough to draw blood, but this Eagle with his formidable bill did not make a scratch.

Putting all things together, my opinion is that our magnificent Wedge-tailed Eagle only uses the bill in tearing off the flesh of the slain animal, for which the crook in the upper mandible is well adapted. Some few years ago three of these fine birds were seen in company pursuing rabbits amongst thistles, when finally, getting one into the open, puss was captured in fine style. The bird tried to fly off with the prize, but the animal, a full-grown one, was far too heavy. On examining this rabbit it was found that it had been killed with a vice-like grip of the bird's talons across the back sufficiently forward to compress heart and lungs. When an Eagle feasts on a young lamb it stands upon the carcass: our pet did the same when rabbits were flung to it. This bird when in that position worked the sharp hook of its bill into the carcass, then with an up-drag tore off the flesh. In devouring a lamb the Eagle broke into its side just behind the shoulder, and directly over the heart, lungs, and liver. Having swallowed these, the rest of the body was picked over. There is very little flesh on a lamb a few days old—in fact, less than is found on a full-grown rabbit—and our tame bird could easily dispose of the latter in a short time. Concerning the weight-carrying powers of a Wedge-tailed Eagle, it was stated one attempted to soar off with a rabbit and failed in that effort. Amongst birds of prey it is generally held that the female is larger than the male, consequently may carry a heavier weight. In my sheep experience never on any occasion have I seen an Eagle try to fly with even a green lamb, and at that stage it is very light. It is true there was no absolute necessity to make that effort, because lambing falls long before these destructive birds commence to nest. It was common enough to see the great creatures circling about—apparently for the fun of the thing—with the cleaned-up skeleton of a lamb in their claws. The aforesaid remains comprised skull, vertebræ, legs, and skin. Wedge-tailed Eagles are not fastidious in their appetites, for they will eat the flesh of animals that die from natural causes, even when their carcasses have become putrid. This, in my opinion, is the reason why strychnine is so fatal to them. My father's mode of squaring accounts with the pest was taking a dead lamb, and, removing heart, lungs, and liver, cut them into tempting morsels, strewed them around, touched each with a dose of the deadly poison. This done, he put strychnine on the remains. One day, with my brother, I went off two hundred yards to await events. Before the lapse of ten minutes an Eagle settled down. Its first proceeding was to bolt the scraps, then, stepping on to the carcass, it began to operate upon it. In a short space of time it became "wobbly," moved a few feet away and fell prone on its breast. The pair of us, running forward, found it beating the ground with partially extended wings, in the last throes of death. During this same

year I witnessed another Eagle's death from strychnine. Three or four were circling leisurely around above a grassy slope, but how high in the air cannot be said, save that they were beyond the range of a shot-gun. All at once one of them, shutting its wings tight, fell head foremost like a stone to the earth, and, hurrying across, I found the Eagle quite dead. Whether its life went out with the first contraction of the wings or whether impact with the ground finished it are points that cannot be decided. Some thirty years ago I had the opportunity of a lifetime in noting an Eagle making a swoop to capture a hare that was hiding in a bunch of tussock grass on our sheep-run. Beyond question, it was a magnificent sight—in fact, no word-painting could give it accurately, for it was one of those things whose sublimity can only be realised by the eye. The bird when first observed might be one thousand paces distant, its altitude in the air two or three hundred yards. He swept forward with great speed—in short, I had never seen a Wedgetail travelling so swiftly before. There was no flapping of wings. The whole performance was on a very gradually lowering line, whose terminus was a few feet directly above the game. On gaining that point he turned round, but before he accomplished that purpose, puss, springing from her cover, darted for a fence that had a 2-foot wall under its wires. The Eagle at once went in pursuit. The hare evaded him by running close to the wall—a favourite dodge with hares when chased by Wedgetails. Eagles are now rare birds in the region where I was brought up. This clearance resulted from the free use of strychnine. Before the advent of that deadly poison our only means of coping with them were shot-guns, but if we had depended on them as engines of destruction Eagles would be plentiful now. In my boyhood's days they could be writ down exceedingly numerous. Some of the squatters had used iron dog-traps; one bird was shot minus a foot, which it was supposed to have left in the jaws of a trap. They are hard to kill with loose shot; if sitting with back towards the shooter their wings protect them, while if fired on directly in front it takes strong-going lead to reach vital parts. An overhead flying shot, I have found, is not effective.—ISAAC BATEY. Drouin, Victoria, 15th April, 1907.

Forgotten Feathers.

BY H. KENDALL, MELBOURNE.

NOMENCLATURE OF THE EMU.—Under the title “How the Australian Emu Came by its Vernacular Name,” Mr. J. J. Fletcher, M.A., B.Sc., has rendered a great service to the ornithologists of Australia by recalling some “Forgotten Feathers.” He has had facilities for examining early records which to many are a sealed book. Beginning with the arrival of Governor

Phillip, on 26th January, 1788, he cites many references to the bird which has given the title to our magazine. When *The Emu* was started the then editors consulted authorities versed in philology,* and, after receiving their opinions, decided that the vernacular and spelling adopted by the Australian Association for the Advancement of Science should be adhered to. Mr. Fletcher's citations justify this decision. From Captain Tench's "Narrative of the Expedition to Botany Bay, &c.," dated 1879, he quotes:—"The bird which principally claims attention is a species of Ostrich, apparently nearer to the Emu of South America than any other we know of," and gives the captain's description of physiological and structural details of the bird. Mr. Fletcher claims that the whole story of the nomenclature of the Emu rests on the possession by Captain Tench of a copy of Goldsmith's "Animated Nature" (a work consulted before the spelling of the name of this magazine was decided upon). In this work three species of *Struthera* are given—"under vernacular names only, as the Ostrich, the Emu, which many call the American Ostrich, and the Cassowary." He proceeds to say that Captain Tench and his colleagues held "a sort of scientific inquest upon the new bird." But Mr. Fletcher shows that Tench's account leaves us to draw our own conclusions upon two important matters—namely, exactly how the verdict that it was not the American Emu was arrived at, and whether their verdict was a unanimous one. The spelling of Emu was changed in subsequent English publications, in deference to British authorities, who possibly declined to recognise the bird as a new species, and thought it only a variety of the Cassowary. Captain Hunter, says Mr. Fletcher, is the only writer who uses the spelling Emew, but thinks that possibly this was due to a typographical error "which passed unnoticed." This theory is hardly tenable, as Prof. Newton, who has made a study of the word, uses by preference Emeu, a closely allied form, but one which, as has been pointed out by Mr. T. S. Hall, of the Melbourne University, is open to serious objections. When Prof. Tucker was consulted, he wrote:—"It appears to me that the pronunciation attached to the words was that of our Emu, and with the usual practice of early travellers, who were not phoneticists, the spelling was open to variation.* The current form in ancient times was not Emeu." Mr. Fletcher claims that the name "was not given in a haphazard way, but that it was the outcome of a genuine attempt to name the bird correctly," which, judging from many other authorities consulted, was undoubtedly done. Those who wish to pursue the subject should consult vol. i., p. 5, 1st January, 1907, of *The Australian Naturalist*, for the full text of Mr. Fletcher's paper.

* *The Emu*, vol. i., p. 5.

From Magazines, &c.

BRONZE-WING PIGEON.—In a letter published in the October number of *The Avicultural Magazine* Mr. D. Seth-Smith states that four cocks and two hens of the Bronze-wing Pigeon (*Phaps chalcoptera*) have been presented by Sir Wm. Ingram for liberation in Regent's Park.

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THE Rev. H. D. Astley sent to the November number of *The Avicultural Magazine* a photograph of a live male Alexandra Parrakeet (*Spathopterus alexandri*) in his aviary. The mate of this bird laid three clutches of eggs in the summer months of April, May, and June, and sat splendidly, but all the eggs proved infertile.

* * *

NEW HONEY-EATER.—In *The Victorian Naturalist*, vol. xiii., p. 104, Mr. A. J. North, C.M.Z.S., &c., by permission of the Trustees of the Australian Museum, has described a new genus and species of Honey-eater from Rennell Island, Solomon Group. It has been named generically after its discoverer, Mr. R. M. Woodford, Government Resident of the Group, *Woodfordia superciliosa*. The prevailing colour above is brown, washed with dull olive-green. Total length, 6 inches. The description is accompanied by a fine half-tone block of the skin, which shows an unusually large bill and stout tarsus for a Honey-eater of its size. It is a doubtful point whether it is justifiable to name a *genus* after a person, in place of giving it some more appropriate designation characterising some important structure by which all students can identify it.

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IN the journal published by the Victorian Department of Agriculture for February, 1907, is an article on the Yellow-breasted Robin (*Lopsaltria australis*), illustrated by a coloured plate. It is a praiseworthy idea that the Government should endeavour to acquaint the producing public with useful insectivorous birds. The figure, which, however, serves for identification, depicts the Robin sitting on a small dead limb that stands in a crop—a most unnatural set of circumstances for such a bird to be in, seeing “its home usually is the heavily timbered country near gullies, rivers, and creeks.” In the April number of the journal appears another plate—the Coachwhip-Bird (*Psophodes crepitans*)—which might also be improved upon. Further, it is to be regretted that species have been selected for illustration which are not common insectivorous birds, to the neglect of species like Magpies, Tits, and others, which are of far more practical value.

REGENT-BIRD.—Mr. Reginald Phillipps, in *The Avicultural Magazine* for March, contributes "Further Notes on the Regent-Bird." Mr. Phillipps' "Further Notes" have reference to a bird successfully hatched in August, 1905 (see *Emu*, vol. v., pp. 220-222), but which unfortunately died during February this year. On dissection it proved to be a male. On examination after death some of the "specks" on the mantle were found to have yellow centres, though possibly there may not have been more yellow, or "yellowish," on the upper parts than is usual at certain seasons on the adult female. But the under side of the wings, especially towards the axillaries, was suffused with yellow in a manner not noticed in the female. Up to death the bird retained its dark bill and eyes ; and that neither yellow patch nor black tip should have appeared on the flights would seem to demonstrate (Mr. Phillipps is of opinion) that the male Regent-Bird cannot come into full plumage until he is at least four years old.

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HYBRIDISATION.—In the October number of *The Avicultural Magazine* Dr. A. G. Butler writes at considerable length on experiments in hybridisation, with particular reference to the *Ploceidae*. He describes, amongst others, a remarkable cross between *Staganopleura guttata* and *Tæniopygia castanotis*. The bird was bred in captivity in Australia many years ago, and was received in England by Mr. D. Seth-Smith in April last. In appearance it resembles the Spotted-sided Finch (male parent) more than the Zebra Finch (female parent), but its song resembles that of the Zebra Finch. It has a curious reddish colouring on the chest, absent in both of the parent birds, and the bill is not nearly so red as in either parent. In the course of his article Dr. Butler remarks :—" It is, I think, probable that the Waxbills are an offshoot from the Grass-Finches, which in many respects they resemble ; they are more sprightly in their movements, have better trained voices, and though they court their wives much in the same fashion, holding a long grass stem in their beaks, they hold their beaks pointing upwards rather than in the depressed fashion common to the Grass-Finches and Mannikins."

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AUSTRALIAN PARROTS AT THE CRYSTAL PALACE SHOW.—The class for Parrakeets was better filled than usual, the first prize going to a fine pair of Bourke's, sent by Mr. H. Peir, of Sydney,* who also exhibited a specimen of the rarer Blue-banded Grass-Parrakeet (*Neophema venusta*), which the judge did not deign to notice. Mr. H. Cooper received the second

* A member of the A.O.U.

with a nice pair of Red-vented Blue Bonnets (*Psephotus haematonotus*), a species which has recently been imported more freely than the better-known Yellow-vented form (*P. xanthorrhous*).* A Varied Lorikeet, Barnard's, Crimson-winged, and King Parrakeets were also present. The most conspicuous exhibit in the class for Parrots was a fine pair of Banksian (Black) Cockatoos belonging to Sir C. Lawes Wittewronge, Bart. The male was a magnificent bird—the first adult male of this Cockatoo exhibited for many years—but the female was not in quite such good trim, and as the two had to be judged as one exhibit the judge gave the first prize to a single female of the same species, a well-known prize-winner, in better condition than the female of the pair. Had the male of the above pair been exhibited alone he would doubtless have been awarded premier honours.—*Avicultural Magazine*, March, 1907.

* * *

PLUMED-DOVES.—*The Avicultural Magazine* for December last contains an instructive article on these interesting little Pigeons by Mr. D. Seth-Smith, F.Z.S. The article is accompanied by a coloured plate of a male of the White-bellied species (*Lophophaps leucogaster*), by Mr. H. Grönvold, also a black and white sketch of a bird in the act of "displaying." This interior species is now well known in various Australian zoological gardens. Mr. Seth-Smith writes concerning his experience of five—two males and three females—which he obtained in 1905. At first these birds were very shy, but soon became tame. Then it was found impossible to keep more than one pair together. They were terrible bullies, and a male would soon clear the place of every ground bird except the female he is mated to. Even then, after caressing each other affectionately for a time, the male would suddenly turn on his mate and chase her all over the enclosure. The "display" of the male Plumed-Pigeon is very pretty and frequently performed. He bows to his mate, at the same expanding his tail and wings and showing off the wonderful patch of iridescent purple-bronze on the latter to the best advantage. One hen laid several clutches of eggs but made no attempt to incubate.

Canary and millet seed, Mr. Seth-Smith observes, seems to be all that these birds require in the way of food in captivity.

* * *

CONCERNING QUAILS.—The genus *Coturnix*—the true Quails—contains in all seven species, one of which, *C. novæ-zealandie*, is on the verge of extinction in its native home, the islands of New Zealand.† *C. coturnix* ranges over the greater part of Europe

* For some remarks on these forms see "Annotations," *Emu*, vi., p. 199.

† This species might possibly be replaced by the Australian bird, *C. pectoralis*.

Africa, and Asia ; *C. capensis* inhabits South Africa ; *C. japonica*, China and Japan ; *C. coromandelica*, the Indian peninsula ; *C. delegorguei*, Central and South Africa ; while *C. pectoralis* is confined to Australia and Tasmania. In *The Avicultural Magazine* for November, 1906, Mr. D. Seth-Smith, M.B.O.U., contributes some notes on the genus, five of the species of which he has kept in his own aviary. He states :—" As far as cabinet ornithology is concerned there is practically nothing by which to separate the genus *Coturnix* from the genus *Synæcus*. They are, however, perfectly distinct in life. In the first place, the appearance of Swamp-Quails is quite different from that of true Quails. They appear to be much shorter in the legs, but run much faster. The most interesting point of difference is in their breeding habits. Both *Synæcus* and *Excalfactoria* are strictly monogamous, and both sexes brood the young, whereas *Coturnix* is semi-polygamous, by which I mean that, although a male will pair with only one female at a time and remain true to her until incubation commences, he will promptly leave her when this period arrives and seek another mate. If the birds are in an enclosure where there is no other hen Quail there is a danger of the cock bullying the hen and driving her off the nest. When the young are hatched the male *Coturnix* does not attempt to brood them—in fact, if he approaches he is promptly driven off by the mother." Concerning the Australian species, he says a female in his aviary reared a brood of seven ; the young males commenced to show black streaks on the breast when five weeks old, and were in adult plumage by about eight weeks. The article is illustrated by an excellent coloured plate picturing the heads of six of the species.

* * *

GOULDIAN FINCH.—The plumage phases of the Gouldian Finch (*Poephila mirabilis*) forms the subject of an interesting article by Dr. A. G. Butler in the September number of *The Avicultural Magazine*. Dr. Butler thinks that the Red-headed variety of this species is a mutation from the Black-headed variety. " My young birds," he writes, " left the nest before the end of September last year, and by the end of the following April they were just beginning to assume their adult colouring. One, which proves to be a hen, was in full colour by 17th June, and is a typical *P. gouldiae*—at any rate, I can see no red on the face at a distance of 8 feet or so ; the other, which is a cock bird, cannot complete its change to the adult plumage before about the middle of the present month (August) ; it is a well-marked *P. mirabilis*, far better marked than its mother was. I have not the least doubt that, if this pair were to go to nest together, they would produce a majority of young of the Red-headed variety ; the male, though bred from a Black-headed father and an ill-

defined Red-headed mother, being a typical *P. mirabilis*, and the female, though of the *P. gouldiae* type, having red blood in her veins, would certainly tend to throw Red rather than Black-headed young."

IN the February number of *The Avicultural Magazine* Dr. A. G. Butler describes the nestling plumage of *Poephila mirabilis* as follows:—"Upper surface ash-grey washed with olive-green, the forehead darker grey; inner webs of flights and inner portion of outer webs of primaries dark smoke-grey; central tail feathers blackish towards tips, outer feathers grey, the remainder with grey inner webs; sides of face whity-brown with a faint olivaceous tinge, cheeks slightly browner, chin whitish with barely perceptible tinge of olive at the sides; breast pale dove-brown; abdomen white, slightly washed with golden-buff at the sides; under tail coverts white; under wing coverts white faintly tinged with yellow at the base; flights below leaden-greyish; beak darker than in adult bird; feet flesh-coloured, the digits dusky below."

* * *

CHESTNUT-BREASTED FINCH AND YELLOW-RUMPED FINCH.

—Some interesting notes on the breeding of the Chestnut-breasted Finch (*Munia castaneithorax*) and Yellow-rumped Finch (*M. flavigrymnay*) are contributed to the February number of *The Avicultural Magazine* by Mr. W. E. Teschemaker. Discussing the question of the latter bird's claims to rank as a distinct species—for it has been regarded as merely a variant form of *M. castaneithorax*—Mr. Teschemaker sums up as follows:—"I think we shall not be far from the truth if we assume that these are distinct species, compelled to associate by a chance circumstance; and that the dark-throated birds are wild hybrids, showing their mixed parentage after the first moult." The nesting of the Yellow-rumped species in Mr. Teschemaker's aviary must have been very interesting to follow. "On a wet and cold day," writes their owner, "the youngsters were sitting, huddled up and quite incapable of flying more than a very short distance, in a low bush not more than 2 feet from the ground, whereas the nest box was quite 6 feet from the ground. . . . Just at twilight both the old birds flew up to the nest and began to call loudly. Instantly the young commenced to scramble up to the top of the shrub. The strongest one then jumped off on to the wire-netting and began to crawl up like a little mouse, using its feet chiefly. But, alas! long before it reached the nest its strength gave out and it fell to the ground. Again the parents called it, and again it fell. . . . After trying other tactics unsuccessfully the old birds began to push the young, which would hardly make any effort, from branch to branch. . . . At last they got one into the

nest, and the delight of these two old birds was good to see." In his notes on the Chestnut-breasted Finch Mr. Teschemaker writes :—" At 18 days a young Chestnut-breasted Finch is a little brown bird, exactly resembling a young *M. flaviprymna*, and totally unlike its parents. It has not a black or a white or a chestnut feather on it. After that age, however, there is not the smallest resemblance between the young of these two species."

* * *

MALLEE (VICTORIA) NOTES.—" Mallee-Bird " writes :—

(1.) Regarding late breeders :—" 3rd March.—Three nests White-browed Wood-Swallow, eggs in each. On the 5th of March, Yellow-rumped Diamond-Bird's nest. Did not dig the burrow out, but, judging by the well-worn footmarks at the entrance to the nest, it contained young ones. I have now found in these parts this Pardalote's nest every month from June to March.

" On the 29th March, Graceful Honey-eater's nest, with two well-fledged young birds in it. This Honey-eater's nest I have now met with every month from August to March. On the 30th, Allied Diamond-Bird's nest, with eggs; also on 30th March, Mallee-Fowl's nesting mound with three eggs in a forward state of incubation. This is the latest I have known the Mallee-Fowl to be working at their nesting mound."

(2.) Notes on migration :—

" White-shouldered Lalage.—This bird takes its departure from here as soon as the young ones are strong enough on the wing to accompany the old birds. They migrated on or about 26th January. These birds seem to all leave at the one time. On the arrival of the Lalage in these regions I have always noticed that the male birds come a week to ten days in advance of the female birds. I would like to know if any other observer has noticed this.

" The Bee-eater.—These birds always begin to congregate about eight to twelve days before they migrate, the flock getting larger each day, and the cries of the birds become louder as they rise higher and higher into the air each succeeding day. Finally they take their departure at night time. The first lot of Bee-eaters left on or about the 2nd February. The second and final lot, which were the season's young birds—a few of the old female birds always remain to accompany the young ones on their migratory flight—left on or about the 27th February.

" Both the Masked and White-browed Wood-Swallows left the Mallee in two batches, the first lot early in March, the second about 18th April. Odd specimens of the White-brow are here yet, and seem to have taken up with the common Wood-Swallow, which do not, according to my experience, leave

the Mallee. I meet them in flocks of from half a dozen to 50 all the year through. Some of the Tree-Martins seem to migrate, but the House-Swallow and Fairy Martin are always here, and I notice no diminution in their numbers during winter."

(3.) *Visitors* :—

"The Flame-breasted Robin always comes soon after the May rains, and starts south again early in August.

"The Red Wattle-Birds are numerous here now. I have noticed flocks of them—perhaps 300 to 400—all coming from the south or south-east, in the last days of April. They generally come after the autumn rains. I sometimes meet with flocks of White-fronted Chats which must number 200 or 300 birds.—"Nature Notes," *Argus*, 10/5/07.

* * *

THE AVIFAUNA OF TORRENS LAKE.—The present season seems to have been unusually good for the feathered world generally in its wild resorts. Particularly does this apply to waterfowl, as large numbers are to be seen on nearly all the lakes and lagoons in the country, which have this summer kept full, owing to the mild weather. The rivers also have plenty of inhabitants of the swimming and wading varieties. Even within the bounds of Adelaide abundance of waterfowl have assembled, and taken up their quarters on the Torrens Lake, and, thanks to the rigid protection afforded them by the municipal authorities, they are quite tame and confiding. They form a pretty picture in nature study as they float over the placid waters or bask in the sun on the green banks of the lakeside. Recently several members of the South Australian Ornithological Association paid an unofficial visit to these regions, and their remarks were extremely encouraging to the protectors of this city reserve. The Black Swans (*Chenopsis atrata*) which have been procured and set at liberty seemed to be quite at home, and do not attempt to leave their quarters ; in fact, young ones have been raised in the flags, and were swimming about with their parents, in spite of the place being rather open and accessible to the small boy. In the shallows where the water weed is plentiful the Black Duck (*Anas superciliosa*) were in numbers, feeding on the aquatic herbage and small titbits that abound in the mud. Here also the Grey Teal (*Nettion gibberifrons*) were in plenty, while here and there a Musk-Duck (*Biziura lobata*), with its peculiar single black lobe hanging beneath the under bill, was sporting and diving as in its native swamps. A few White-eyed Ducks (*Nyroca australis*), often called "Widgeon" and "Hard-heads" by sporting men, were observed near the flags, while in the thick reed covers numerous Bald-Coots (*Porphyrio melanotus*) were perched, with their blue uniforms and red helmets showing

out conspicuously in the bright sunlight. Another of the Coot family seen was the Moor-Hen (*Gallinula tenebrosa*) of more sombre colour and smaller than the former species. The Coot (*Fulica australis*), with its blackish plumage and white headcap, was also present in more open localities, and a few Hoary-headed Grebes (*Podiceps poliocephalus*) were diving in the deep water. These little roundish-looking balls of downy feathers are called "Dabchicks," and are adepts at diving, in which way they procure their food. On a neighbouring willow tree several Little Cormorants (*Phalacrocorax melanoleucus*) were perched in solemn state, after feeding on fish. The Magpie-Lark (*Grallina picata*), known as "Pee-wee" from its cry, was searching along the mud-banks for aquatic insects, upon which it lives. In the same hunting grounds it procures the soft mud with which it builds its cup-shaped mud nest, always placed on a horizontal bough of a tree near the water's edge. The sweet notes of the Reed-Warbler (*Acrocephalus australis*) could be heard on all sides where the reeds and flags afforded shelter for it to seek its food without being brought too near the busy crowd. The Welcome Swallow (*Hirundo neoxena*), with its characteristic tameness, swept past like a flash of light, and skimmed over the tranquil surface of the water, where myriads of small gnats and mosquitoes were buzzing. One was led to ask what mankind would do if it were not for the birds, especially those whose habits destine them to prey on insect life.—*South Australian Register*, 23/2/07.

Reviews.

[“Supplement to ‘The Birds of New Zealand.’” By Sir Walter Lawry Buller, K.C.M.G., F.R.S., &c. In two volumes. Published (for the subscribers) by the author, 62 London Wall, E.C. 1905.]

AN obituary notice of the late Sir Walter Buller appeared in this journal (vol. vi., pp. 79–81), in which it was stated that the great native-born ornithologist, before he passed away, had just completed a two-volume “Supplement” to “The History of the Birds of New Zealand.”

The editors of *The Emu* have since had an opportunity of reviewing the “Supplement.” They find the work more than a supplement in an ordinary sense. It is the author’s splendid standard work of 1888 brought up to date by separate subsequent additions of careful and copious notes, both field and cabinet, to each species; alterations in nomenclature where necessary; besides names and information concerning fresh species recently added to the New Zealand region. Ornithologists generally and New Zealand colonists in particular, are to be congratulated on possessing such a completed work as Sir Walter Buller has left to them and to posterity.

The coloured plates are very fine. The author's own appreciation of the colourists' work is:—"The admirable manner in which all these plates have been hand-coloured, after the pattern drawn by Mr. Keulemans, by the Misses Dora Louise, Daisy Madeline, and Sylvia Rosamund Bowdler-Sharpe, and Mr. C. Edwards, has given me great satisfaction." Some of the half-tone text illustrations, depicting characteristic New Zealand scenery—"the home" of a particular bird—are also good. "The Last-known Resort of the North Island Robin" (*Miro australis*—*Miro* after a winter berry), from a photograph by the author's daughter (Mrs. Laura Madocks), with its fern and forest, is suggestive of tropical luxuriance. However, it is hoped, for the sake of ornithology, that the author is incorrect in his title (of picture) and in his assumption of this fast-expiring species, because the bird has been rediscovered by our member, Mr. J. C. M'Lean,* and the editors hope to publish field notes of the same shortly, together with bush illustrations, by Mr. M'Lean.

The whole work, which is folio size, has been classically printed by Messrs. John Bale, Sons and Danielsson Limited, Great Titchfield-street, London, W.

The "Supplement" opens with a lengthy (50 pages) and highly argumentative "Introduction" bearing directly on the evolution of the species, &c., followed by "Our Vanishing Forms of Bird Life," "The Passing of Our Forests," &c. The general classification is arranged according to the system adopted by Dr. Bowdler-Sharpe in his "Hand-List of Birds." As may be expected, the author devotes many pages to the remarkable Kiwis, and has much interesting matter about the giant flightless Rail—*Notornis*—of which only four specimens have been captured. Melancholy thoughts occur when one reads about the recently extinct and fast disappearing forms, notably the endemic Quail (*Coturnix novae-zealandiae*), the flightless Rail and the Pigeon of Chatham Islands, and the *Notornis*, already mentioned.

Whether the Grey or Black Duck (*Anas superciliosa*) is becoming scarce or not in Australia, it appears still numerous in New Zealand, where, however, it is being gradually supplanted by a superior bird, a cross between this wild Duck and the introduced European Mallard (*A. bosca*). It has also been proved that the progeny of hybrid domestic Rouen and wild Grey Ducks are quite fertile. Regarding the Black Swan, introduced from Australia, partly through the instrumentality of Sir Walter, he writes:—"Now thousands are to be met with in both islands"—a happy result in acclimatisation.

Amongst the Shags or Cormorants it will be observed that vice-royalty has received dedications twice—*Phalacrocorax ran-*

* See *Linn.*, vol. vi., p. 35.

furlyi (Ogilvie-Grant), after the Earl of Ranfurly, and *P. onslowi* (Forbes), after Lord Onslow, Governors of the colony. While on the subject of dedications it may be mentioned that Sir Walter Buller received another in *Miro bulleri* (Alpine Robin) at the "eleventh hour" from Dr. Sharpe—"History of the Bird-Collection in the British Museum (1905)." The Buller Robin, as distinguished from the other nearly related species of Robins, has "almost the entire under surface pale lemon-yellow," and is found in the South Island.

Much has been written in the pages of *The Emu* lately regarding Cuckoos and their habits. Here is a quaint note under the heading of "The Long-tailed Cuckoo (*Urodynamis taitensis*)":—"Mr. Swayne writes:—'In August last year (1905) I was at the island of Niu, in the Ellice Group, and while walking with the local trader we passed a clump of buka trees, in which, as is common throughout the Ellice Group, there were numbers of the Noddies (*Anous stolidus*) nesting. I noticed that in one tree the birds were much disturbed, and apparently frightened. . . . We remained some time watching, and saw our friend the Cuckoo drive a Noddy out of its nest and take possession of it, while the old birds and apparent proprietors tried in vain to dislodge the intruder. . . . I do not doubt that the Cuckoo was about to lay. . . . It would be interesting to know whether the young Cuckoo is raised on a fish diet.'" Sir Walter adds:—"I should think it far more likely that the predatory Cuckoo was feasting itself on the Noddy's eggs, as their custom is."

Sir Walter Buller, who is a sound authority on Penguins, is of opinion that *Eudyptula minor* (Little Penguin) and *E. undina* (Fairy Penguin) should be kept separated. The latter, he states, "is a smaller bird than the well-known *E. minor*, described by Gmelin in 1788, and owing to the brighter colouration a skin could be picked out of a hundred specimens of the other without any difficulty." Australian naturalists will receive Sir Walter's verdict with satisfaction.

The editors have been favoured with the following critical remarks by Mr. D. Le Souëf, C.M.Z.S., who, with the late Mr. H. P. C. Ashworth, visited Albatross Rock during November, 1894:—"Sir W. L. Buller quotes from the Hon. W. Rothschild when writing on the *Diomedea canta*, in which Mr. Rothschild states that he will need a lot of evidence before he can admit that the so-called *Thalassogeran cantus* is a female of *T. salvini*. I quite agree with him, and do not for a moment consider that the two birds named are identical, judging by the illustration of the head of *T. salvini* in Buller's work. Perhaps it would be a help if I gave a description of one of the birds I procured at Albatross Island, in Bass Strait, when they were nesting, and which we consider is *T. cantus* of Gould:—Crown, breast, and

neck pure white, the back of the neck gradually changing into greyish-black on the lower back; a dark greyish-black line goes from the upper part of the bill to the eye and thence continued as a much paler broad patch below and behind the eye, running down the side of the neck for from 4 to 5 inches and practically meeting at the back of the crown and forming a conspicuous white cap. In the female the delicate grey colour on the side of the head is much paler and fades away to within a short distance of the eye and does not meet at the back. The rump and upper and lower tail coverts white, the centre under tail coverts slightly tinged with grey; the tail is grey and lighter below, with the outer webs paler; the shafts are white; the upper wing coverts are greyish-black, like in the other species; the primaries are grey on the outer web and white on the inner, the white changing into grey towards the tip; the shafts are white above and dark below; the under surface of the body and the under wing coverts are white; the beak is greyish horn colour, darker below, and the point horn colour. Total length 40, culmen 6, wing 22, tail 9, tarsus 3.25 inches.

"The specimens of this bird mentioned as having been obtained at Bounty Island are probably accidental visitors there, as the home of these birds is evidently Albatross Island, near Tasmania. There is very little difference between the male and female, and we could not tell them apart; in the photographs I took of these birds on their nests, as mentioned by Mr. Rothschild, both the male and female appear, as they take turn about in sitting. The assumption is that every island has its peculiar Albatross, although two kinds are sometimes found on one large island, but they nest at different times."

The reviewers venture to take exception to only one statement in this masterly and completed "Supplement"—namely, regarding *Ostrelata phillipsi* (Phillips Petrel), in vol. i., page 119, the author states:—"It is doubtless of this species that a newspaper correspondent gives the following interesting account":—

"In countless thousands they reach their breeding ground in Phillip Island and the neighbourhood, on the eastern coast-line of Victoria, within a few hours of the same date every year. Some idea of the gregariousness of these birds is given by Capt. Waller, of the *Westralia*. He states that on one occasion, while on the journey between New Zealand and Australia, he steamed for 30 miles through solid flights of Mutton-Birds extending to a distance of three or four miles on each side of the vessel. Occasionally they settled on the water, and when they did that they covered the surface and looked like a reef of black rocks. They were on their way to the Victorian coast, to occupy their nests on the land."

The remarks refer undoubtedly to *Puffinus tenuirostris* (Mutton-Bird or Bonaparte Shearwater), and should come under that species on page 104.

Among the new records, mostly accidental, to the list of

indigenous birds of New Zealand, are mentioned the following Australian species:—*Nettion castaneum* (Teal), *Phalacrocorax sulcirostris* (Little Black Cormorant), *Sula sula* (Booby), *Sula cyanops* (Masked Gannet), *Pelecanus conspicillatus* (Pelican), *Certhneis cenchroides* (Kestrel), *Chætura caudacuta* (Spine-tailed Swift), *Cuculus saturatus (intermedins)* (Oriental Cuckoo), and *Petraca vittata* (Dusky Robin of Tasmania, but admitted only provisionally, and correctly so), *Fulica australis* (Coot), *Larus novæ-hollandie* (Silver Gull), *Limonites ruficollis* (Little Stint), *Glottis nebularius* (Greenshank), *Aneylochilus subarquatus* (Curlew Sandpiper), *Gallinago australis* (Snipe), *Stiltia isabella* (Pratincole), *Plegadis falcinellus* (Glossy Ibis), *Ardea cinerea* (Grey or Common Heron), *Anous stolidus* (Noddy).

Sir Walter Buller's last paragraphs in his great work, written under *Glaucopis wilsoni* (Blue-wattled Crow), are:—

"The four specimens, dressed, as I have mentioned above, with loving hands, and prepared with so much labour, were, in point of fact, the foundation of a collection which in after years assumed important proportions, and was, on the publication of my first edition, in 1872-3, presented by me to the colony, when it straightway became the 'type collection' in the Colonial Museum. This was done in recognition of the generous assistance accorded to me by the Stafford Government in the prosecution of my scientific work.

"My second collection was sold by me, on the publication of my second edition, in 1888, to the Hon. Walter Rothschild, for the Tring Museum—on the assessment of Professor Newton, of Cambridge—for £1,000; and my third collection, on the completion of this 'Supplement,' to the Carnegie Museum, Pittsburg, U.S.A., for a similar sum, the price having been arrived at after a careful valuation by Dr. Bowdler-Sharpe, the assistant keeper in charge of the ornithological collections in the British Museum. All three collections will therefore be available for the student of the future, when many, if not most, of the species will have passed away for ever. I think these facts are worth recording, seeing that the collections relate to a fauna characterised by Professor Newton as the 'comparatively little changed relic and representative of the early fauna of much wider range.' In a private letter to myself this same high authority observes:—'The New Zealand avifauna is undoubtedly the most interesting avifauna in the world.'"

[“Wild Life in Australia.” By W. H. Dudley Le Souëf, C.M.Z.S., M.B.O.U., &c., Director Zoological Gardens, Melbourne. With 170 original photographs by the author and others. Christchurch, Wellington, and Dunedin, N.Z.; Melbourne, and London: Whitcombe and Tombs Limited.]

“WILD Life in Australia” is a book written for “the millions,” but especially for the lover of the open field and of nature. It

is sure to become famous with young folk, and from the number of its bird notes appeals largely to the ornithologist.

Members of the A.O.U. will be mindful that the author was the first honorary secretary of the Union, and materially assisted in piloting it successfully through the first years of its existence. Now is the opportunity to return the compliment. Moreover, the book is a unique one, resembling no other ever written. Simplicity, whether of life, line, or composition, is always the most charming. Herein lies the charm of Mr. Le Souëf's writings—simplicity—plain, unvarnished descriptions of nature, whether animate or inanimate, as she appeared to him, and because he so loves Nature, she has apparently revealed to him many of her secrets which, when put into words, read more like stirring fiction than items of sober yet fascinating truth.

The work is compiled in the form of field excursions—(1) "Gembrook, Victoria"; (2) "The Western District, Victoria"; (3) "Mallacoota Inlet"; (4) "Riverina District, N.S.W.); (5) "Furneaux Group of Islands, Bass Strait"; (6) "Hunter Group and Albatross Island, Bass Strait"; (7, 8) "Queensland"; (9) "Western Australia." These chapters incidentally contain popular natural history notes of every description pertaining to Australian bush—rocks, trees, birds, beasts, fishes, &c.—and are liberally illustrated by the camera, at which Mr. Le Souëf is an adept. Some of the pictures are exceedingly artistic, notably—"Gembrook Road," "Iguana Climbing Tree" (Mattingley), "Red-capped Dottrel's Nest," "Nest of Pied Oyster-catcher," "Echo Creek, Tasmania," &c. But, undoubtedly, the most remarkable bird pictures are those depicting rookeries respectively of Albatrosses, Gannets, and Sooty Terns (Cornwall), while the author is also fortunate in having three-colour reproductions of two of his cousin's (Mrs. Ellis Rowan) famous pictures—namely, "Brown Tree Snake and Orchid" and "Green Ants' Nest and Queensland Berries."

From a publisher's point of view the work is neatly got up, bound in imitation crocodile leather (cloth) boards. Had the paper been of a slightly better quality, or even similar to that used as "specimen pages" previously issued by the publishers, Messrs. Whitcombe and Tombs Limited, the excellent half-tone blocks would have appeared to greater advantage, also the letter-press. Nevertheless, the price at 7s. 6d. is surprisingly reasonable for such a work.

Had space permitted some of Mr. Le Souëf's nature incidents would have been quoted. The following, however, will prove, amongst other things, that he is a lover of snakes—a neglected field of much interest:—

"On one occasion, when camping in a small bark hut, I was asked by my companion if I thought there were any snakes about, as during the night something had passed over his legs. I scouted the idea; but

after he had gone out for the day I searched under the floor and found the culprit in the shape of a tiger snake, which I quickly despatched. In the stable near the house mice were plentiful, and tiger snakes used often to live under the floor in luxury. On one occasion we killed one of these snakes, and, as it was in prime condition, determined to try what it was like cooked; but the cook would not touch it, so I had to prepare and do it myself. I put various ingredients in to make it appetising, but for all that found it rather dry and bony, though the flesh was white.

"We once made a tiger snake bite a mouse, which was dead in twenty-one seconds, and on several other occasions when we did the same thing found the time vary from twenty to forty seconds. On one occasion a young man thought he had discovered an antidote, so he brought me a kitten, which had had the hair shaved off the part he wished the snake to bite. Well, I caught a tiger snake, and holding it by the neck, made it bite the required spot, but while the owner was looking for the punctures to rub in his so-called antidote the poor kitten died."

* * *

"I was once bitten by one of these snakes which was about six months old, and the only effect was to give me a bad headache. I was carrying it in my pocket at the time, with my hand over it to prevent its escaping. And that reminds me that some years ago two venomous water snakes were sent to me from Queensland. They apparently died one cold night, so, putting them in my pocket, I took them to town to preserve them in spirits, but when in a crowded omnibus I felt, as I thought, someone moving my pocket, so putting my hand in it, found my two snakes awake and squirming about, the heat having revived them; but I managed to keep them in until the city was reached, but I often thought since what the result would have been if one had got out.

"Snakes cannot travel fast on sand, as the loose material does not offer any resistance to the ribs or belly scales. When at King Island with members of the Field Naturalists' Club of Victoria, I had collected one day about a dozen copper-head snakes, and had to transfer them from the collecting bag to a box, so emptied them all out on the sand, my friends looking on from a distance and offering me advice. I was then enabled to pick them up one by one, as they could not escape."

* * *

"A few days later we drove to some granite ranges, about twelve miles from the homestead (Coomooboolaroo, Queensland), and on arriving there some of us went along the range where the rocks were high to hunt the rock-wallabies, which live in the crevices of the rocks. We had some exciting attempts to capture them, as they ran up the sides of the rocks and leaning trees with extraordinary agility. They were adepts at climbing and jumping, as we frequently saw them perched on the lower branches of a slightly inclining tree. We managed to catch one, and, placing it in a bag, took it back to the camp. When one of our party was looking for flowers, she came across a carpet snake about 10 feet long, coiled up under a clump of bushes. As we afterwards found out, an opossum had just furnished it with a heavy meal, which it was quietly digesting. The reptile was soon transferred to a bran bag, and, later on, arrived in Melbourne with the wallaby."

Correspondence.

THE PROTECTION OF NATIVE GAME.

To the Editors of "The Emu."

SIRS,—May I call your attention to the following letter, taken from a Tasmanian newspaper of the current month, dealing with one of the methods by which our native fauna is being pushed out of existence:—

To the Editor of the "Launceston Examiner."

SIR,—From all sides we hear that the native game is fast disappearing, in spite of legislation designed to protect it: and the question is, Can something not be done to put matters upon a better basis? Various reasons have been assigned for this scarcity of game. It has been laid to the charge of over-shooting, the close cutting of stubble, Hawks, domestic cats, and such like; but I do not think that all these put together will equal the extinction of Quail, Magpies, kangaroo, opossum, and even deer, by the use of poisoned grain. I understand that in some districts near Evandale, when the owner is using poisoned grain to get rid of rabbits, whole coveys of Brown Quail can be found dead, and Magpies by the dozen are to be picked up, having fallen, poisoned, from their perches. He also states that he came across five deer lying dead in one spot, while kangaroo and opossum are lying dead all over the run in question. What is the use of passing laws for the protection of game when a wholesale means of destruction is allowed to prevail, and which is far more destructive than any shooting or trapping can be? In fact, it is sheer waste of animal life, which

could be turned to profitable account in other ways. No inland town has been more injured than the little village of Evandale. The farms surrounding the spot years ago were the scene of busy agricultural industry, second to none in the State; but the farms became absorbed, and were given over to sheep, the buildings went to decay, and with the departure of the families from the district the very village itself has partaken of the general decay. I remember remarking the state of affairs to one of the owners in question at one time, and, while admitting the fact was as stated, he said:—"The sheep pay best, and the sheep shall have the land." But, coming back to the question of game preserving and poisoned grain. Will not the sportsmen of the North take the matter in hand, and endeavour to do something? I am quite certain that trapping would do much more to reduce the rabbits, and that without any charge to the landlord, if men were permitted to operate and put an end to a practice that is at once wasteful, barbarous, and injurious to other interests in the State at large.—Yours, &c.,

NATIVE GAME.
6th May, 1907.

Another method was commented upon in a recent issue of the same journal, where it was recorded that a beautiful White Heron, a strictly protected bird! had fallen to a gunner of Scamander, on the East Coast. This was done quite openly, the proud hunter publishing his execrable name without fear of consequences. Mr. H. C. Thompson tells me that he recently met a lad coming into town with a small gun on his shoulder on which were strung a pair of *Podargus*, some of our fine Yellow-throated Honey-eaters, and several Noisy Miners. Truly a mixed bag! And the shooter stalked through the middle of the

city with all these murdered "protected" birds in his possession. The imposition of a ten-shilling gun-tax annually would put an immediate stop to a vast deal of this useless slaughter, and the sooner it comes the better for our birds and our farmers also. The State Government is often at its wits' end to make up a revenue, yet here is a method by which a considerable sum could be raised annually without injuring anyone, for a gun is no more necessary here for protection than it is in England, where the ten-shilling tax has obtained so long, and which country is full of delightful wild songsters. With regard to the wholesale poisoning of native fauna, this is, if possible, a still more serious question, and one worthy of all consideration and discussion in the pages of *The Emu*.—Yours, &c.,

H. STUART DOVE.

Launceston, Tasmania, 8th May, 1907.

Bird Observers' Club.

THE quarterly dinner was held in Melbourne on 26th February, 1907, when thirteen members were present. Before commencing the business of the evening Mr. Leach was congratulated by the chairman (Mr. D. Le Souëf) on his taking the degree of Master of Science of the Melbourne University, and also on his appointment to an important position in the Education Department in connection with nature study. It was resolved, on the motion of Mr. A. J. Campbell, seconded by Mr. C. L. Barrett—"That the Premier be written to protesting against the Waranga Basin or any other reserve being opened by a Minister of the Crown for shooting purposes." The exhibits of the evening were plentiful and varied. Mr. G. Shepherd showed nests and eggs of Jardine Caterpillar-eater and Leaden-coloured Flycatcher. Mr. A. G. Campbell showed a fine series of skins of the birds of Mornington district found within a quarter of a mile of the coast; total, 32 species, of which 11 are in Tasmania unaltered, 9 are in Tasmania represented by an insular form, 13 are in north-west Victoria, 21 are in north-east Victoria, 24 are in south-west Victoria, and all in Gippsland and around Melbourne. Mr. A. G. Campbell also exhibited skins of adult and fledgling of *Pelagodroma marina* (White-faced Storm-Petrel); and interesting accounts of their habits and their rookeries were given by Messrs. Campbell and Mattingley, who have recently visited Cygnet (Mud) Island. Mr. Mattingley showed a fine series of pictures of the Pilot-Bird (*Pycnoptilus floccosus*), showing nest and eggs, birds feeding young, and bird at nest. Mr. Mattingley is to be complimented for his patience and success in bird photography, as this is a branch of nature study that appeals to the student and collector alike.

On 25th March, 1907, the ordinary monthly meeting of the Club was held at the residence of Dr. Charles Ryan, the host being voted to the chair. Fourteen members were present, and apologies were received from four others. Mr. Hill's resignation as a member was accepted, as he had left the State. On a ballot being taken, Mr. Isaac Batey, of Drouin, Vic., was unanimously elected a corresponding member of the Club. The subject for the evening's discussion was "Nocturnal Birds of Prey." Many fine specimens of Owls were exhibited by Messrs. Le Souëf, A. G. Campbell, Mattingley, and Ryan. Mr. Le Souëf pointed out the difference of plumage existing in various *Podargi* and other night birds, and holds the belief that

P. strigoides and *P. curvieri* are distinct species, but adds that more skins are needed, as the difference can only be discovered by carefully sexing the birds.

The quarterly dinner was held on the evening of 22nd May. At the meeting afterwards there was a large attendance of members and friends. The chairman (Mr. A. J. Campbell) bade a hearty welcome to Mr. Isaac Batey, who had the honour of being the oldest bird observer present, and whose observations and field notes (to be published in *The Emu*) went back 60 years, to the time when the illustrious John Gould was in Australia collecting material for his great coloured work, "The Birds of Australia." Mr. Mattingley then entertained the company with a lecturette on "The Murray Swamps," illustrated with some of his unique lantern views of bird life, depicting, among other things, White Egrets in their nests at a height of 50 feet from the ground, where the photographer could only reach them at some risk by the aid of rope ladders and climbing irons.

South Australian Ornithological Association.

THE annual meeting of the above was held at the residence of Dr. A. M. Morgan on Friday evening, 8th March, 1907. Mr. J. W. Mellor presided over a good attendance. The hon. secretary (Capt. S. A. White) read the eighth annual report, which showed that good work had been accomplished during the year. Six general meetings had been held, at which the attendance was good. Exhibits were always plentiful, which, combined with field notes, formed valuable groundwork for discussions and dissemination of useful knowledge relative to the habits and identification of native birds. The association had ever been watchful to bring under the notice of the authorities any breach of the law connected with birds, and it was thought that the work in this direction was beginning already to bear fruit. There seemed to be an awakening interest on the part of the public generally to protect the useful native birds, and it was trusted that by the study of the habits of our feathered friends the rising generation would become more interested, and eventually the spirit of destruction among the young would be stamped out. Two delegates (Mr. J. W. Mellor and Capt. S. A. White) attended the annual congress of the Australasian Ornithologists' Union in Tasmania at the close of last year. At these meetings they advocated the introduction of the Lyre-Bird (*Menura victoriae*) into Tasmania and the mound-raising Pheasant or Mallee-Fowl (*Lipoa occultata*) into Kangaroo Island. Both places were ideal localities for these birds, as there they would be free from the ravages of the fox, which threatened to exterminate them on the mainland. The indebtedness of the association to Dr. Morgan for the use of his rooms for meetings and generous hospitality always shown to the members was placed on record, and a hearty vote of thanks was carried by acclamation. The secretary reported upon the visit to Tasmania and work done at the various meetings, excursions held in Hobart and Launceston, and gave extended notes of the birds found on Mount Wellington, showing several skins procured there, including the Black Cockatoo (*Calyptorhynchus funereus*), Small-billed Cuckoo-Shrike (*Grauculus furvirostris*), and the Bronze-Cuckoo (*Chalcococcyx plagosus*). The chairman in his annual address dealt with the natural history aspects of Mount Barrow, which was visited by the ornithologists while in Tasmania. The ascent of Mount Barrow by the party was graphically described, and the peculiar plant life seen in these elevated parts—4,644 feet above the sea, or 500 feet higher than Mount Wellington—was described. Mr. R. Crompton showed a peculiar albino Crow from Lake Frome (S.A.) Mr. F. R. Zietz reported having a pair of the Yellow-rumped Finches (*Munia flavirostris*) in captivity. Mr. A. H. C. Zietz, F.L.S., recorded the

near completion of the restoration of the skeleton of the long-extinct mammoth bird of Central Australia (*Genyornis newtonii*), the remains of which had been discovered at Lake Calabonna. This giant bird was considerably larger than the Cassowary. No known bird had such a large pelvis, the one in question being over 2 feet long. The sternum bone was also proportionately large. Dr. A. M. Morgan was elected president, Mr. A. H. C. Zietz, F.L.S., vice-president, and Mr. J. W. Mellor hon. secretary and treasurer, these to form the general committee of management.

Publications Received.

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Bird-Lore, VIII., Nos. 4-6 ; IX., No. 1.
Hawkesbury Agricultural College Journal, The, IV., Parts 1, 2, 3, 4.
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Ibis, The, July-Oct., 1906 ; Jan., 1907.
Royal Society of Victoria, Proceedings, XIX., Parts 1 and 2.
Records of Canterbury Museum (Christchurch, N.Z.), I., Part 1.
Linnean Society N.S.W., Proceedings of, No. 120, April, 1906 ; No. 122, Oct., 1906 ; No. 124, March, 1907.
South African Ornithologists' Union, The Journal of the, Dec., 1906.
Victorian Naturalist, The, Oct., Nov., Dec., 1906 ; Jan., Feb., Mar., April, 1907.
Zoologist, The, July, Aug., Sept., Oct., Nov., Dec., 1906 ; Jan., Feb., Mar., 1907.
Beebe, C. W., The Swans ; Spring Moult of *Larus atricilla*.
Whitman, C. O., The Problem of Origin of Species.
Palmer, T. S., Federal Game Protection, U.S.A.
National Association of Audubon Societies. Leaflet No. 24 : The Bluebird. Leaflet No. 21 : The Scarlet Tanager. Leaflet No. 6 : The Bartramian Sandpiper.
U.S. Department of Agriculture. Bulletin No. 19. Hunting Licences.

TREASURER'S NOTE.—Consequent upon the voluntary resignation of Mr. E. Brooke Nicholls, the Council of the A.O.U. has appointed as hon. treasurer Mr. J. A. Ross, Crown Solicitor's Office, Lonsdale-street, Melbourne. Mr. Ross requests that members, when making payments, will kindly forward cheques drawn to order or postal money orders, *payable to the Australasian Ornithologists' Union*, and not to an official or individual ; to add exchange to cheques, if subject thereto ; and to cross all cheques and postal orders.



Brooding Plumed Egret (*Mesophoyx plumifera*).

The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. VII.]

1ST OCTOBER, 1907.

[PART 2.

A Visit to Heronries.

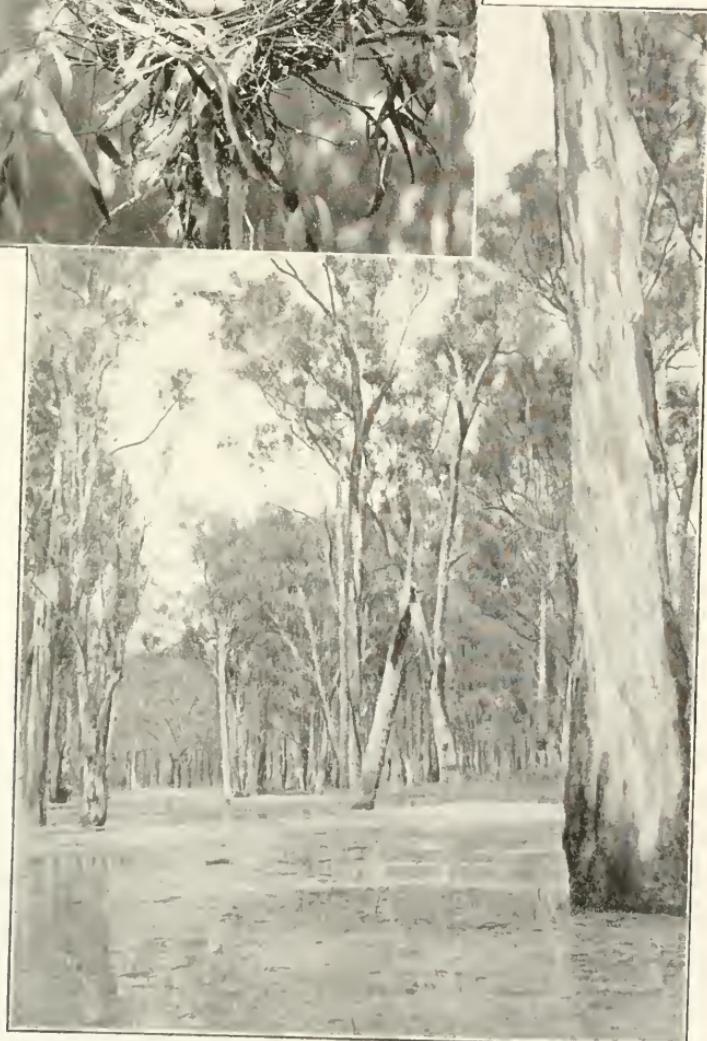
BY A. H. E. MATTINGLEY, MELBOURNE.

THE main factor that impelled me to visit the neighbourhood of Mathoura, situate in the heart of Riverina (N.S.W.) was due to an impulse derived from the desire to make a closer acquaintance with the heronries casually observed by me in my earlier years whilst "camping-out" on many occasions during my annual vacations amongst the large swamps of the River Murray basin. Yielding to the impulse to study the bird-life of the swamps, another ardent ornithologist, Mr. J. Ross, joined me, and we journeyed by train to Mathoura on the 3rd November, 1906.

When crossing the River Murray at Echuca we noticed that the stream had risen in many places above its banks, and had submerged the surrounding country. This flooding of the low-lying lands set us wondering as to how we should be able to reach our destination with our heavy baggage, remembering that we had, on our previous visits to this locality, to drive 8 miles through a series of swamps whose waters almost reached the floor of our buggy as we proceeded through them; and this occurred in the dry summer months. On arriving at Mathoura our doubts were soon set at rest. A large flat-bottomed boat was awaiting us, vehicular traffic being impossible, owing to the water, with which all the low-lying country was covered, being now too deep to travel through. The inundation of the low-lying lands contiguous to the river, the greatest waterway in Australasia, is an annual occurrence, which in some respects resembles the flooding of the Nile River basin. The increase in the volume of the waters of the Murray at this time of the year is due to the simultaneous melting of the snow lying on the mountains at its source. Were it not for this annual inundation of the swamp lands the main hatcheries of our water birds would be destroyed, and many other species lose their breeding habitat. The reason for this is not far to seek, when we remember that the food supply of these birds is derived from the waters of those natural incubators, the swamps, into which the fishes retire to spawn in the seclusion and apparent safety of the dense aquatic vegetable growths inhabit-

ing these swamps, and which are so necessary for the protection of the helpless ova and fish fry, and were the swamps to remain unflooded, neither the water-weeds would be propagated nor the fishes be able to enter the swamps to spawn. Numerous water insects, too, would remain unhatched, likewise frogs, snails, and crustacea. The regularity of the annual flooding of these swamps at this time of the year has been observed by many species of birds, and the certainty of a plentiful supply of suitable food necessary for the successful rearing of their young ones has induced many kinds to repair to these secluded spots to breed. The Herons, in common with other species, have also noted this occurrence, and great numbers of them repair to these regions at this time. And as these lands are flooded for part of the year only, the birds naturally choose the time in which to nest and bring forth their young when the bounteous harvest to be reaped from the swamps is most plentiful and easily procured—a very necessary precaution, because their offspring are endowed with voracious appetites, to satisfy which the energies of their parents are taxed to their utmost. It is when the swamps are draining and comparatively shallow that the food supply of the Herons is more easily obtained, owing to the homes of the crustacea, snails, frogs, and fish fry either being laid bare or constricted into shallow pools or billabongs. It is then that the Egrets and Herons are able to more easily capture their prey, which cannot readily evade them, and it is precisely at this period that these birds bring forth their young. Being seized of these facts, the exact date of our departure on our trip of investigation was an easy matter to decide.

Entering our flat-bottomed and somewhat frail craft, we set out for our destination. After paddling against a swiftly flowing stream for four miles we entered a large swamp, on whose watery bosom floated myriads of water lilies, which were a blaze of vivid yellow flowers, whose delicately perfumed blooms filled the air with fragrance. Leaving the swamp we came to a creek, and, paddling against the stream, which was running very swiftly, we made our way over its waters, which were sheltered on either side by picturesque red gums, that flung their coolsome shadows across its bosom. Everything around us was calm and beautiful. The air, warm and balmy and redolent with the aromatic odour of the eucalypts, gave promise of fine weather for some time. At last we reached the homestead, situate at the junction of the River Murray and the Gulpha Creek. From this spot we made excursions daily in different directions. By so doing we materially added to our knowledge of the habits of the denizens of this favoured locality, which is the home of at least a million birds, the question of space in this magazine forbidding even a cursory review of some of them. A week was spent poling and paddling the boat through the



Nest of Plumed Egret (*Mesophoyx plumifera*).
Locality of Heronry—A River Murray Backwater.

FROM PHOTOS. BY A. H. E. MATTINGLEY.

entangling aquatic growths. During these outings we came in contact with the sombre White-fronted Heron (*Notophoyx novæ-hollandiæ*), commonly known as the Blue Crane. Paddling down Warwick Creek on one occasion one of these Herons was observed sitting on her nest at the end of a limb some 70 feet high. Wishing to investigate the nest, we, after an hour's labour, during which we nearly capsized our frail craft, managed to pass our rope ladder up to the extreme end of the bough. So frail looked the support, so far distant from the main trunk, from which it projected at right angles, that our swampsman in charge of the boat looked askance at so perilous a climb, but up one of us went. The muscles of the climber, wearied with the constant poling of the boat, inwardly groaned at this unwonted exercise, but these groans were not heeded. Finally the nest was reached, and five beautiful blue-tinted eggs rewarded the eyes (see *Emu*, vol. vii., plate iv.) Unlike other Australian Herons, which nest together in rookeries, or rather heronries, the White-fronted is a solitary and unsociable bird, preferring to nest by itself, for which purpose it chooses a tree overhanging one of the many creeks. Occasionally, however, we found two nests in one tree, and in one instance we observed in the same tree a nest of large young ones, and below it on another limb another nest containing five typical eggs, whilst overhead in the topmost branches a Goshawk (*Aster*) had built its nest. When disturbed the young Blue Herons lie flat down in the nest, and by stretching their long necks and tails beyond the edges of the nest, meanwhile remaining perfectly rigid, attempt to simulate the appearance of the surrounding wood and sticks, which they do to perfection. The long, thin neck and the white patches on the face, intermingling with the greyish-blue, appear, when viewed from below, to be one of the limed sticks of their nests. There is no doubt but that the sombre greyish-blue colour of the White-fronted Heron is a protection against the attacks of its enemies, and for this reason it is unnecessary for it to protect itself and offspring by joining in with the members of its own species and resorting in common with them to a heronry to breed. Their nest is like a shallow plate about 1 foot or 1 foot 5 inches in diameter, and as a rule is composed of fine sticks. In it are cradled from four to five beautiful blue eggs. When freshly laid the eggs and nest are clean, but it is not long ere the nest and its surroundings become freely bespattered with excreta, which tinges them with white. The young birds are comical, ungainly balls of slaty-blue down, and appear to possess heads much too large for their bodies. The height of the nest from the ground varies from about 20 feet to 90 feet.

On the 9th of November, 1906, we judged the time to be ripe for the main object of our visit, which was to journey to the

great heronries. So, packing our boat with provisions, rope ladders, climbing irons, and other impedimenta, until there was scarcely room to get in it, we started at daylight, and, paddling up the Murray, reached the mouth of the Edwards, an ana-branch of the last-named stream. Strange to say, the Murray runs into all the streams hereabouts, instead of the streams running into it as tributaries. Paddling down stream, aided by a strong current, we make excellent headway until we find our path blocked in several places by snags and driftwood, which we manage to clear away with an axe sufficiently for the boat to pass. Onward we glide for miles, at first through swamps containing oological wealth, and then through parts where the river became narrower and compressed between higher banks. Further on the river banks became submerged. Soon a dank, swampy odour pervaded our nostrils, the timber here growing denser and much higher. Huge gum trees, interspersed with tall saplings, which reared their umbrageous heads 70 to 120 feet high, grew in profusion. The hoarse croaking calls of Herons could be heard ahead. Several White Egrets, together with Nankeen Night-Herons, were seen fishing close by, and arose and flew away with the clumsy, wheeling flight peculiar to the Cranes or Herons. The waters, o'ershadowed by the picturesque gums, appeared blacker, the air became danker, the river more wild and primeval, flanked as it was on either side by a virgin forest. As we swept onwards, impelled by the swiftly flowing current, that seemed to be drawing us to a vortex ahead, we suddenly noticed half a dozen large stick nests underwoven with fresh gum leaves, situate in the tops of the trees, all of which were occupied by Nankeen Night-Herons. Onward we glided, nests now on every side and high up in safe positions, all tenanted by Night-Herons. Nests were visible in almost every gum-tree. Paddling onwards for about $1\frac{1}{2}$ miles, we at last leave the nests behind and reach our camping spot on a dry knob of ground surrounded by water and in the vicinity of a place called Reedy Nook, adjacent to a locality known as St. Helena—a wild, isolated, unfrequented area like the island after which it was named. On the camping ground there was the frame-work of a deserted aborigine's mia-mia, alongside of which we pitched our tent and prepared a late but welcome lunch. After its demolition we made our way back to the heronry. Striking off through the swamp at its lower end, we noticed several nests of the White-necked Herons (*Notophoyx pacifica*) placed on the top of a huge gum-tree about 200 feet high and quite safe from molestation from below.

Now we arrive at a Nankeen Night-Heron's nest, and as we approach the tree the brooding bird suddenly flushes and alights on a tree near, meanwhile uttering hoarse croaks of disgust at being unceremoniously disturbed. The antithesis of beauty and



Young Egrets (*Mesophoyx plumifera* and *Herodias timoriensis*).

goodness is usually found associated in nature. Notice the discordant croaks and want of range in the musical repertoire of all our graceful, long-necked birds, and those which possess long tracheas or windpipes, whilst those with short necks and full throats usually have sweet and melodious and a greater range of calls. Fixing the climbing irons to his legs, my companion scrambles up to the nest. Whilst he is so occupied our boatman advisedly backs the boat away from the tree trunk, so that the climber can fall into the water should the climbing irons suddenly slip—a contingency that often happens—and the climber be precipitated to the bottom. After considerable exertion the nest is reached, and a joyous exclamation by him proclaims that he has obtained his first sight of a Night-Heron's eggs. How eminently adapted is the general colour of the Nankeen Night-Heron, with its dull brown, chestnut-tinged plumage, o'er capped with black, for nesting amongst rocks; their young ones' mottled plumage, too, being even more pronouncedly rock-coloured than their parents'. In some parts of Australia the Night-Herons build their nests on rocks. The reason that these birds took to nesting in the rookeries at the Murray is no doubt due to the large quantities of food procurable in these places, and to some causes that militate against their occupying what seems to me to be their natural habitat amongst the rocks.

Further on we observe several White Egrets (*Herodias timoriensis*), and on closer inspection we discover several smaller Plumed Egrets (*Mesophoyx plumifera*) sitting on their bulky stick nests, which are somewhat less in size than the Night-Heron's, and not so frequently underwoven with gum leaves, although the Night-Herons also build nests similar to the Plumed Egrets when viewed from below, only a little larger. The Plumed Egret's nest measures about 13 to 14 inches in diameter, and is almost imperceptibly shallower than the Night-Heron's. Longing glances were cast at the nests, but as the lowest limb was much too high for our 70-foot rope ladder we searched for more favourably situated ones built on a tree that lent itself to our climbing tackle. Paddling through the timber we were able to ascertain the extent of the herony of White Egrets, and computed their numbers to be about 150 individuals—the remnant of a once larger colony, which, we were informed, must have totalled originally about 700 birds, but which, owing to the demand for their back plumes for the adornment of ladies' hats, had been decimated by plume-hunters and reduced to the present number of about 150 birds. The only method by which the hunters are able to obtain Egrets' plumes in quantities is to shoot the birds on their nests, since at this period they are more readily approached, and allow a person to get within gunshot. Owing to the shyness of

the Egrets when they are free from the cares of rearing a family very few plumes are obtained. A shot by us into space, albeit, sends the birds in dozens from their nests, and as they fly away, usually to the nearest dry tree, their snow-white plumage is pleasingly silhouetted against the green foliage of the surrounding gum-trees. How pure, how graceful they look in the sunshine as they alight on the dead tree-top and contemplate the intruders in the boat beneath them. At last we find a nest in a tree adaptable to the rope ladder, and after many efforts we fix the ladder in position, and the climber excitedly clammers up, holding on like "grim Death" to the rope as it sways hither and thither, or varies the performance by turning as if on a pivot on account of it being impossible to fix it in the swamp water beneath. It is no easy task climbing 70 feet of swinging ladder; but the climber hardly notices this fact—his attention is on the nest above and the coveted prize of a sight of a rare clutch of eggs, the first of their kind ever taken, or at all events recorded, in Australia. Puffing, panting, and perspiring at every pore, he now reaches the limb at the top of the ladder, but still he has to go higher. After half a minute spell he scrambles up and up the now smaller main stem until after desperate efforts he reaches the limb on which the nest is situated. Trembling in every muscle with such unwonted exertion, as well as with the enervating effects of excitement, he works his way laboriously along the horizontal bough until he reaches the smaller twigs in which the nest is placed. Ha! what a picture is before his eyes! "Eureka!" Four delicately shaded blue-tinted eggs. Immediately a strong line is sent down for the camera, which is forthwith attached, and then hauled up, and with trembling fingers and much balancing in mid-air the camera is fixed to the bough, and after lengthy manœuvring and adjusting the nest is focussed and a picture taken, after which operation the camera is again lowered to the boat, and the weary climber descends and sits exhausted in it. It is now time to return to camp, and we make a detour to ascertain the extent of the Nankeen Night-Heron's rookery, which surrounds the colony of the "White Cranes." As it was too lengthy a task to correctly compute the exact number of Night-Herons in this heronry, we approximately estimate the number domiciled there to be several thousands, which was afterwards verified by me on my second trip. Tired and hungry, we at last reach camp, well satisfied with the day's work, and with a determination to thoroughly explore the homes and to study the habits of the Herons.

Up betimes next day, we sally forth, and after careful search discover several trees that a strong climber could negotiate, and in which are seen the nests of the Night-Herons. Up two of us went, and by aid of climbing irons and rope ladder several

nests were reached; some contained only one egg, others two, and a few three and four delicately tinged greenish-blue eggs, somewhat larger than the little Plumed Egret's eggs. In the centre of this heronry a pair of Black-cheeked Falcons (*Falco melanogenys*) had their nest, and no doubt some broods of ducklings paid them toll until such times as the young Herons were hatched, when, no doubt, the Falcons preyed upon them, and perhaps their parents too! As yet no young Herons of the several species in the rookery were hatched, but that "black demon" and thief, the Raven (*Corone australis*) was in evidence, as with maniacal "Caw-caw-car-r-r" he hovered about the heronry and robbed the birds of their eggs systematically when the Herons left them unguarded, judging by the broken egg-shells seen floating on the water beneath the trees. The day being now half over, we repair to the White Egrets' rookery and climb several trees with nests, some of which contained either three or four eggs, which appeared to be the full clutch of both the Plumed Egret (*Mesophoyx plumifera*) and the large White Egret (*Herodias timoriensis*), which birds we found nesting close together. A few Little Cormorants (*Phalacrocorax melanoleucus*) also were seen on their nests in a tall tree in the heronry, and harmonious relations apparently existed between them and the Plumed Egrets, which also occupied the same tree. Photos, having been taken in the limited time at my disposal—all too short to do justice to the subject—we return to camp.

Plundered for their Plumes.

BY A. H. E. MATTINGLEY, MELBOURNE.

IN a previous paper* I gave an account of a visit to heronries, photographing nests, &c. Notwithstanding the extreme heat, and being companionless except for myriads of mosquitoes, I determined to revisit the locality again during my Christmas holidays, in order to obtain one picture only—namely, that of a "White Crane" or Egret feeding its young. I had some difficulty locally in getting a man to assist me with the boat, which had to be paddled about 12 miles to reach the heronry. When near the place we could see some large patches of white, either floating in the water or reclining on the fallen trees in the vicinity of the Egrets' rookery. This set me speculating as to the cause of this unusual sight. As we drew nearer, what a spectacle met our gaze—a sight that made my blood fairly boil with indignation. There, strewn on the floating water-weed, and also on adjacent logs, were at least 50 carcasses of large White and smaller Plumed Egrets—nearly one-third of the rookery, perhaps more—the birds having been shot off their nests

containing young. What a holocaust ! Plundered for their plumes. What a monument of human callousness ! There were 50 birds ruthlessly destroyed, besides their young (about 200) left to die of starvation ! This last fact was betokened by at least 70 carcasses of the nestlings, which had become so weak that their legs had refused to support them, and they had fallen from the nests into the water below and had been miserably drowned ; whilst in the trees above, the remainder of the parentless young ones could be seen staggering in the nests, some of them falling with a splash into the water as their waning strength left them too exhausted to hold on any longer, whilst others simply stretched themselves out on the nest and so expired. Others, again, were seen trying in vain to attract the attention of passing Egrets which were flying with food in their bills to feed their own young, and it was a pitiful sight indeed to see these starvelings with outstretched necks and gaping bills imploring the passing birds to feed them. What a sickening sight ! how my heart ached for them. How could anyone but a cold-blooded, callous monster destroy in this wholesale manner such beautiful birds, the embodiment of all that is pure, graceful, and good.

In one tree at the heronry the nests of the Plumed Egret (*Mesophoyx plumifera*), Egret (*Herodias timoriensis*), and Little Cormorant were seen. In another large tree a photo. was taken of two young Plumed Egrets and one young large Egret together in the same nest. These three birds were the sole survivors of several broods of both species which had nested together in the same tree. They had evidently sought one another's company because all the balance of the nestlings had expired through lack of nourishment, their parents having been shot by the plume-hunters, or, rather, "plume-plunderers." Not satisfied with pictures of these nestlings, whose skin was a peculiar leafy-green colour, I determined to try to get a further series, and having found another tree containing several Little Cormorants' nests, intermingled with those of the Plumed Egret, I donned the climbing irons, to save the time necessary to adjust the rope ladder, and commenced climbing up the bulky trunk of the red gum tree, which became as I ascended more and more unsuitable for climbing with the irons. After scrambling about 25 feet up the trunk, my arms being at full stretch across the tree-barrel, I suddenly felt an acute pain in the back of my hand, which became almost paralysed. It appears that I had knocked off the tree-trunk the nest of a hornet, which forthwith retaliated on me. The sudden shock of the sting almost caused me to let go my flimsy hold. However, during the next step upwards my climbing irons slipping, and my right hand, paralysed by the hornet's sting, refusing to grip some bark, which was the only hand-hold available, I fell down "swash" into the water below



Starveling Egrets (Parents Shot for their Plumes).
Young (*plumifera*) Calling to Passing Herons for Food. Waiting for the End.
Young (*timoriensis*) All But Dead.

FROM PHOTOS, BY A. H. E. MATTINGLEY.



Kegon Waterfall, Japan.

White Cross Showing Site of Spine-tailed Swifts' (*Chutura caudacuta*) Nests.

I was unhurt by the fall, thanks to the water, but I received a few scratches from the tree, principally about the wrists. My clothes were damped, but not my ardour, and I managed to send up the rope ladder, and re-ascended the tree, where I secured another snap-shot of the poor starvelings from a precarious coign of vantage.

Nesting Place of Australian Swifts.

BY D. LE SOUËF, C.M.Z.S., &c., MELBOURNE.

WHEN visiting Japan lately (25/7/07) in company with our member, Mr. R. A. D. Hood, I was enabled to visit the Kegon Waterfall, near Nikko. It is a beautiful cascade of about 270 feet in height and a considerable amount of water also comes out from the apparently conglomerate rock lying under the harder slate-like formation. We were told that in winter it almost ceased running. It drains the Chuzenji Lake, which is about half a mile away, and 4,375 feet above sea-level.

We were pleased to see many Spine-tailed (*Chætura caudacuta*) and White-rumped Swifts (*Micropus pacificus*) circling round in the precipitous gorge beneath us, both close to the falling water and further down. Later, towards evening, they hunted for their winged prey well above the gorge. We noticed single birds every now and again darting down towards the overhanging wall of rock to a place under a jagged ledge (marked with a white cross in the photo.), and, bringing our strong field-glasses to bear on the spot, were delighted in being able to clearly distinguish three nests of the Spine-tailed Swifts. The White-rumped Swifts seemed to dart into holes or crevices, where they evidently had their nests, but we could not distinguish them. Of the three nests of the larger bird, two contained young, which we saw the parents feeding, and when so doing they clung on to the side of the nest for a brief moment; while the third had a bird sitting. The nests were large, and made of mud, evidently of two or three colours, and were built on a sloping wall of rock well under cover, thus—
As far as we could judge from the distance we were (about 150 yards) a nest is about a foot in depth externally by about 4 inches across on the top; the cup or egg cavity was evidently shallow, as the sitting bird was well exposed. We asked the natives living near if they had ever seen the birds roosting at night; they said "No," and had never seen them resting except when clinging to the sides of the cliff where their nests were built.

We were informed that when the young had all left their nests, and just before the annual migration commences to Australia, about the latter part of September and early in October,



the Japanese living at Nikko catch one of the birds, then choose an open spot where two or three trees are growing not far apart, and spread light nets from tree to tree, and then, fastening a long cord to the foot of the captive bird, allow it to fly about on the inner side of the nets. Other Swifts, both the Spine-tailed and White-rumped, are attracted by the captive, and, darting down towards it, often strike the nets, then fall to the ground. As their wings are so long, they cannot fly off the ground, and are left for the time being where they fall, to be gathered when the catching is over for the day. From sixty to one hundred are often caught in this way in one day. The larger species are used for eating, and are much appreciated by the Japanese, while the primary feathers of the wings are used for various purposes. The White-rumped Swift is too small for eating.

When we passed Hongkong, about 1st July, we saw both Swifts there. It is probable that they have many nesting places both in Japan and in China, but their choosing such steep, overhanging cliffs makes them difficult to approach. I have heard of three different such places in Japan.

Field Notes on Birds from Talbragar River, New South Wales.

BY THOS. B. AUSTIN, COBBORA.

PART II.

PIED CROW-SHRIKE (*Strepera graculina*).—Although this is a well-known bird all through the district, and at times very plentiful, it is a very rare thing to see them breeding here; only once have I observed them nesting. There were three young in the nest only a few days old. The nest was built in a large ironbark tree about two miles from the river. A few weeks later I took the young birds for pets, and, although they became very docile, they never learned to talk. It was simply marvellous the way they could catch anything (even stones) thrown within reach of them. These pets had a very unfortunate ending. When they were about twelve months old I noticed first thing every morning that they went for a long fly, some miles away from the house. It soon became very evident that they were trying to induce their wild relations to return with them. This they eventually succeeded in doing; but the wild birds made themselves too much at home in my fruit garden—the second morning after their arrival there was not a fig left on the trees. The wild birds became so tame I could not tell them from the pets, and they became so destructive I had to shoot the lot—an act which I did very reluctantly.

BLUE KINGFISHER (*Alcyone azurea*).—Although I have seen this bird on the Castlereagh River, 30 miles to the north of here, also along the Coodgebaong River, 30 miles to the south, I have no record of it being seen on the Talbragar River.

SACRED KINGFISHER (*Halcyon sanctus*).—These birds arrive in great numbers during the spring, when their loud, screeching cries may

be heard almost anywhere within a mile of the river. They breed here, both in hollow trees and in the banks of the river.

BROWN KINGFISHER (*Dacelo gigas*).—This fine and most useful bird, I am glad to say, remains with us in large numbers all through the year. I have heard it reported that they take the young of other birds from their nests. Of this I can say nothing from experience, but I have no doubt there is some truth in it. My reason for believing it is on account of the appreciation my pets have for Sparrows; I am quite sure there is no food they enjoy more.

PALLID CUCKOO (*Cuculus pallidus*).—A very rare visitor.

FAN-TAILED CUCKOO (*Cacomantis flabelliformis*).—May be seen occasionally, but never in great numbers.

MUSK LORIKEET (*Glossopsittacus concinnus*) and LITTLE LORIKEET (*G. pusillus*).—I think it best to mention these two together, because they always arrive here about the same time, and may be found feeding together. They arrive here after the nesting season in tremendous flocks, and their screeching notes are not altogether pleasant music as they fly from the tree-tops in thousands.

WHITE COCKATOO (*Cacatua galerita*).—The only Cockatoo that I have ever seen in this locality, and they are not plentiful; small flocks of them visit us about June. I have not known more than two pairs to breed here in the same year.

COCKATOO-PARRAKEET (*Calopsittacus novæ-hollandiæ*).—Arrive in large flocks during the spring, but it is a very rare occurrence to see any during the winter. They breed here in great numbers; I have seen two nests in the same tree.

ROSELLA (*Platycercus eximius*).—With us throughout the year in great numbers; one of the most common birds of the district, also a great breeder.

RED-BACKED PARRAKEET (*Psephotus haematonotus*).—Like the Rosella (*Platycercus eximius*), a very common bird throughout the year, and after the breeding season they congregate in large flocks.

WARBLING GRASS-PARRAKEET (*Melopsittacus undulatus*).—Only a spring visitor, some years in large flocks, but sometimes only a few are seen, other years none. I have observed a few breeding here.

GROUND-DOVE (*Geopelia tranquilla*).—A few of these beautiful little creatures are always to be found on the banks of the river. I think they must breed here in fairly large numbers, but I have only one record of seeing a nest, and I should probably never have found that one only for the old bird coming several times to the spot where the nest was. I was sitting only a few feet beneath the nest, fishing.

BRONZE-WINGED PIGEON (*Phaps chalcoptera*).—The only Pigeon I have seen in this locality, and they only come on to the river flats during the summer, where there are plenty of thistle seeds for them to feed on. During the winter months they remain in the scrubs a few miles back from the river. I consider there is no bird being killed in greater numbers by the poisoned water put out for rabbits than this fine Pigeon. Why they are being destroyed in such large numbers compared to other birds is on account of the way in which they come to drink. Firstly, they always come to drink just before sunset; that is naturally the time most of the poisoned water has just been put out. Secondly, instead of flying right down to the edge of the main water, like most birds, they always settle on the ground about a

hundred yards away, and walk down to drink, consequently they are blocked by the netting, which they follow round until they come to the poisoned water-holes, in the same way the rabbits do.

MALLEE-FOWL (*Lipoa ocellata*).—A few years ago, I am informed, this bird was fairly plentiful in this district; now they are practically unknown.

STUBBLE-QUAIL (*Coturnix pectoralis*).—I have seen them here in great numbers in the early part of the summer, but most of them depart about January. Occasionally a great many breed in the crops, but during the summer of 1900-1 they were breeding all over the river flats.

BROWN QUAIL (*Synæcetes australis*).—This (1907) is the first year I have seen them near the river, although about five years ago they were rather numerous in the scrubs and ironbark ridges. I have never known them to breed here.

PLAIN-WANDERER (*Pedionomus torquatus*).—An uncommon bird in these parts, and I have no record of them breeding here.

PECTORAL RAIL (*Hypotænidia philippinensis*).—A few arrive nearly every spring, but they are rather a rare bird, and I only have one record of a nest. This was built by a dam within one hundred yards of my house; the young when only a few days old were most extraordinary-looking little creatures, more like mice (with only two legs) than birds, and they were great runners.

BALD-COOT (*Porphyrio melanonotus*).—A very rare bird in these parts. Last year I noticed a young bird unable to fly, so one pair of birds must have bred here, although I did not see them.

NATIVE COMPANION (*Antigone australisiana*).—Fairly large flocks of them occasionally come here during May and June, and are generally to be seen on the cultivation paddocks just after the wheat has been sown. Naturally they are not very welcome visitors to the farmers, and no wonder, because it must take a great many grains of wheat to satisfy the appetite of so large a bird, consequently the amount of wheat a flock of fifty of these birds would eat in one week would be sufficient to sow a very fair area of ground. I have also known them to be a great source of anxiety to squatters in times of drought, by practically destroying the water in dams, through flocking into the shallow water in hundreds, and making the water in such a filthy state that stock would not drink it. But with all their destructive habits, I must give them a word of praise. In good seasons they are a very useful bird to the country, destroying millions of small insects, which are a much greater pest to the land-holders than any bird.

WILD TURKEY (*Eupodotis australis*).—It is very sad to reflect that this—one of our finest game birds, as well as one of the most useful—is surely being wiped out. I feel sure it is only a matter of a few years and it will be extinct. I have often wondered why nature did not provide this noble bird with better breeding facilities, also better means of protection against its enemies—it falls such an easy prey to Hawks, &c., in the day, and the dingoes at night. Even with its unfortunate breeding habits I think it could have held its own against the enemies just mentioned, but then the fox came to help towards its destruction, and now the worst of all, the rabbit, or rather the means which we have had to adopt to destroy the rabbit—the deadly poison carts. I know of stations where the unfortunate Turkeys have been

poisoned in hundreds—stations where not many years ago these fine birds remained throughout the year in very large flocks, and now the owners of these properties tell me they have not seen a Turkey for five years.

STONE-PLOVER (*Burhinus grallarius*).—Another very useful bird, being a great destroyer of nocturnal insects, and for this reason I know of no better bird for a garden pet. They breed here, and are rather numerous.

SPUR-WINGED PLOVER (*Lobivanellus lobatus*).—Where is the Australian who has never heard the peculiar notes of this fine Plover? Like the Stone-Plover, another night insect destroyer. They are very plentiful here throughout the year, and breed in large numbers.

BLACK-BREASTED PLOVER (*Zonifer tricolor*).—Arriving here about the end of May, they breed in large numbers, and then depart about March. It seems strange why these birds should only migrate for two months in the year.

BLACK-FRONTED DOTTREL (*Egialitis melanops*).—This elegant little bird may be found by the river throughout the year. I have several records of them breeding here.

WHITE-HEADED STILT (*Himantopus leucocephalus*).—In a wet season I have known flocks of them to come, but they never remain long.

SNIPE (*Gallinago australis*).—In a suitable season a great many come here, but of late years I have only seen odd birds.

PAINTED SNIPE (*Rostratula australis*).—I have only three records of this bird appearing in our district.

MARSH-TERN (*Hydrochelidon hybrida*).—In a wet season, when there is plenty of water about, these graceful little birds may be seen flying over the swamps and lagoons, but I have never known them to breed here.

WHITE IBIS (*Ibis molucca*).—This must be put down as a rather rare bird in this district. I have seen small flocks of them, but have never known them to remain long.

STRAW-NECKED IBIS (*Carphibis spinicollis*).—Now I have come to the bird which I consider deserves all the protection that the law can give it. Of all the many fine birds which Australia possesses, I must place this noble and most useful feathered creature before all others. Frequently have I seen many thousands of acres of grass and crops threatened with certain destruction by plagues of countless millions of locusts, grasshoppers, caterpillars, &c., when suddenly, to the delight of the landowners, large flocks of *Carphibis spinicollis* arrive to their assistance. What wonderful instinct is it which tells these birds where the insect plagues are! Though the Ibis tailed us this past summer when the grasshoppers were so bad, I felt sure it was only on account of them being fully occupied elsewhere. Upon more than one occasion when the locusts have been numerous I have known of squatters trying to drive the flocks of Ibis on to their own property. One can easily imagine the benefit derived from a flock of a thousand Ibis for a few days where any insect plague is doing such great destruction. Many an evening have I watched large flocks of Ibis flying from the plains (where they have been feeding all day) and flocking into a few large trees for their night's rest; it is a sight well worth seeing, also one which few people can resist gazing upon. Much more would I like to write about the *Carphibis spinicollis*, but will finish my few

remarks by stating that I hope at no distant date the law will protect this fine, useful bird throughout the year, because I feel that is what it richly deserves.

GLOSSY IBIS (*Plegadis falcinellus*).—I must put this species as a very rare bird in this district, although they do appear in a wet season, but only for a short visit. During the last seven years I have only once seen them—a flock of five—but they only remained about a fortnight.

YELLOW-LEGGED SPOONBILL (*Platibis flavipes*).—Not altogether a rare bird here, but I have never known more than half a dozen birds to visit us at the same time, and I have no record of them breeding anywhere in this district.

EGRET (*Heiodes timoriensis*).—Occasionally a single bird appears, but never do they remain long.

WHITE-FRONTED HERON (*Notophoyx novæ-hollandiæ*).—By far the most common bird of its kind, and, in much the same manner as the Straw-necked Ibis, a very useful bird, but as they never arrive in large flocks they cannot be of benefit to the country when a bird of this description is so much required. They breed here every year in the red gum trees by the river.

WHITE-NECKED HERON (*Notophoyx pacifica*).—A very rare visitor. I have seen odd birds here, but I fancy they have only stayed for a few days' rest when travelling.

NIGHT-HERON (*Nycticorax caledonicus*).—By no means a common bird, but there are always a few about during the warmer months of the year. Their most peculiar notes may often be heard at night. Although I have no record of them nesting here, I believe one pair of birds must have bred here last year, because I saw a young bird, which did not appear to have long left its nest.

BLACK CORMORANT (*Phalacrocorax carbo*).—Occasionally these birds visit this district, but never in flocks; single birds are at times seen, either in the water or perched upon dead trees by the river. The same remarks apply to the following:—*P. sulcirostris*, *P. melanoleucus*, and *Plotus novæ-hollandiæ*.

PELICAN (*Pelecanus conspicillatus*).—Like a great many other birds, pays us a short visit at any time of the year. I have known odd birds to remain for a few weeks and become very tame.

HOARY-HEADED GREBE (*Podiceps poliocephalus*).—In a good season, when the lagoons have plenty of water in them, these strange little birds arrive in great numbers, and a few remain here to breed.

BLACK SWAN (*Chenopis atrata*).—I am sorry to say this fine ornamental bird is rather rare in this locality. Small flocks are occasionally seen. I have never known them to breed here, although one of my boundary-riders once informed me he saw a nest floating down the river in a flood, with the old bird still sitting upon it.

PIED GOOSE (*Anseranas semipalmata*).—I have never seen this bird here myself, but know five did rest here some years ago—unfortunately for them, because two were shot.

WOOD-DUCK (*Chenonetta jubata*).—Always a few are to be seen by the river, and at times they come here in large flocks, but most of them depart just before the nesting season, although a few pairs breed here every year.

BLACK DUCK (*Anas superciliosa*).—This, one of the finest game birds we have in Australia, is the most common of all the Ducks in this locality; when no Black Duck is to be found here it is almost certain there is no other species of Duck within a great many miles. A fair number of them breed here every year; their favourite nesting-places are the hollow red gum trees growing by the river.

TEAL (*Nettion gibberifrons*), SHOVELLER (*Spatula rhynchotis*), PINK-EARED DUCK (*Malacorhynchus membranaceus*), and HARDHEAD (*Nyroca australis*).—These four species of Ducks are only to be seen here in a wet season, when they arrive in very large flocks. I have no record of any of them breeding here, but no doubt some of them do when the season is favourable.

MUSK-DUCK (*Biziura lobata*).—Only a single bird of this species have I seen throughout this district. This bird was in a very small dam. After watching it diving for a few minutes, I saw it sneak out of the water and go under a tuft of grass, where I caught it. I took it home and put it on a large dam near my house, but it did not remain there more than a few weeks; it was last seen upon a lagoon about a quarter of a mile away.

EMU (*Dromaeus novaehollandiae*).—A bird which was very plentiful only a few years ago, but I have not seen one within fifteen miles of the river since the 1902 drought. That disastrous year killed the Emus in very great numbers throughout the State. During 1900 one pair of birds became so tame that they came right up to the house and took all the quinces off two trees. The following year I saw an old bird with seven young. This fine species was looked upon as a nuisance not so very long ago, and on a great many stations men were employed to destroy them. Now I think the squatters who were once so anxious to eradicate them would be glad to see a few Emus about their property. I am glad to hear from squatters further west that Emus are on the increase again.

The Food of the Birds.

BY FRED. L. BERNEY, RICHMOND, N.Q.

As this is an important subject, I have recently been saving, from time to time, the stomachs of such birds as came into my hands; and, feeling that I was not personally in a position to do them justice, I forwarded a small collection to Mr. A. S. Le Souëf, Zoological Gardens, Sydney, who kindly undertook to examine them.

In many cases the contents were in too comminuted a state for more than a general decision, such as "beetles and small flies," but where the condition was such as to give hope of actual identification of the insect or what not that the bird had been feeding on, Mr. Le Souëf sought the assistance of the authorities of the Australian Museum, who were good enough to go carefully into the matter, with the result that I think the subjoined list is of sufficient importance and interest to publish in *The Emu*.

The stomach of the Night-Heron (No. 120) proved to be of

considerable value, as it contained a rare crab that previously had been reported only from Cape York and Thursday Island.

It will be noted that my list contains practically no seed-eaters, I having separated these and forwarded them to Mr. F. M. Bailey, the obliging Queensland Government Botanist, who is propagating the seeds obtained thereby and will record the result. Mr. Le Souëf, too, I may add, is growing such seeds as he found in the stomachs sent him.

It will be noted also that no mention of honey is made in connection with any of the *Meliphagidae*, but this, I think, would hardly be discernible in a dried state.

If readers would only realise what a lot of really useful information is thoughtlessly lost when a bird is thrown away, they would at least save some of it by preserving the stomachs of such as they are able, and this is easily done by removing the outer fleshy covering and pinning on to a wall, out of reach of cats and mice, until dry. Careful identification of the bird is necessary, and a record should be kept of locality and date.

I feel sure that Mr. Le Souëf, or any of the authorities, would be glad to receive specimens from anyone who, like myself, has not got a microscope at hand or a museum at his back.

Subjoined are the names of birds, with contents of stomachs, and the birds were all obtained about the Flinders River, N.Q., on an area of a hundred miles to the west of Hughenden.

116. Rufous Song-Lark (*Cincloramphus rufescens*).—Caterpillars, beetles.
- 117 and 136. Black-faced Wood-Swallow (*Artamus melanops*).—Beetles of the families Cisteriidæ and Allecula.
118. Spotted Crake (*Porzana fluminea*).—Water beetles.
119. Red-backed Kingfisher (*Halcyon pyrrhopygia*).—Beetles of the family Tenebrionidæ; 75 per cent. beetles and 25 per cent. of ground spiders.
120. Night-Heron (*Nycticorax caledonicus*).—Crab (*Thelphusa transversa*).
121. White-shafted Fantail (*Rhipidura albiscapa*).—Small flies and a few small beetles.
122. Black-headed Diamond-Bird (*Pardalotus melanocephalus*).—Moth eggs, flies, and caterpillars.
123. Black-headed Diamond-Bird (*P. melanocephalus*).—Flies, caterpillars.
126. Butcher-Bird (*Cracticus destructor*).—Numerous small beetles.
127. Babbler or Chatterer (*Pomatorhinus temporalis*).—Small beetles.
129. Yellow-throated Miner (*Myzomela flavigula*).—Caterpillars, ants.
130. Little Friar-Bird (*Philemon citreogularis*, sub-sp. *sordidus*).—Spiders, many Coccidæ (scale-insects), a fly of the family Muscidæ, beetles.
131. Red-capped Robin (*Petraea goodenovii*).—Small flies and beetles.
133. Brown Honey-eater (*Glyciphila ocularis*).—Flies and small beetles.
138. Flock-Pigeon (*Histriophaps histrionica*).—Vegetable matter, seeds.

144. Brown Shrike-Thrush (*Collyriocincla brunnea*). — Beetles and caterpillars.
148. Yellow-throated Miner (*Myzantha flavigula*). — Few small beetles.
149. Ground-Lark (*Anthus australis*). — Small beetles.
151. Magpie-Lark (*Grallina picata*). — Spiders of the family Amaurobius, lepidopterous larvæ, beetle grubs, some heteromerous beetles, wasps, ants, grass seeds, marsh-mallow seeds, and leguminous seeds.
152. White-throated Fly-eater (*Gerygone albicularis*). — Small flies, wasps.
154. Pale Flycatcher (*Micræca pallida*). — Numerous white ants.
155. Lesser White-plumed Honey-eater (*Ptilotis leilavalensis*). — Small flies, beetles, &c.
156. Lesser White-plumed Honey-eater (*P. leilavalensis*). — Small flies, wasps, &c.
157. Red-throated Honey-eater (*Entomophila rufigularis*). — Caterpillars, beetles, flies.
158. Black-headed Diamond-Bird (*Pardalotus melanocephalus*). — Flies, wasps, &c.
159. Pallid Cuckoo (*Cuculus pallidus*). — Many hairy caterpillars, probably species of *Teara*; some butterfly larvæ, probably *Danais menippæ*.
160. Striated Tree-runner (*Sittella striata*). — Caterpillars and a few beetles
161. Striated Tree-runner (*S. striata*). — Caterpillars.
165. Black-breasted Lark (*Cinclorhamphus cruralis*). — Grasshoppers, cockroaches.
167. Black-breasted Lark (*C. cruralis*). — Beetles, crickets, &c.
169. Black-breasted Lark (*C. cruralis*). — Beetles, flies, &c.
170. Black-breasted Lark (*C. cruralis*). — 75 per cent. beetles, 25 per cent. vegetable matter.
171. Brown Quail (*Synæcus australis*). — 1 beetle, vegetable matter, and thistle seeds.
176. Lesser Golden Plover (*Charadrius dominicus*). — Caterpillars, grubs.

Magpies or Crow-Shrikes.

BY ISAAC BATEY, DROUIN (VICT.)

MY knowledge of these fine birds began with *Gymnorhina leuconota* at Redstone Hill, near Sunbury, in 1846, and in later years extended to Woodend, where *G. tibicen* was met with. The White and the Black-backs were found there living amicably together. About five years ago, having to go to Tandara, some 27 miles north from Bendigo, a young pet *G. tibicen* was seen quite different in marking to those met with further south. The black bands across the backs of the Woodend birds may be set down as narrow, whereas in the Tandara specimen the black ran up towards the base of the skull.

According to Mr. A. J. Campbell's work, "Nests and Eggs of Australian Birds," *G. leuconota* ranges over New South Wales, Victoria, and South Australia, but there is a big gap in that

section of Riverina known as the Old Man Plain, extending from Wanganella, on the Billabong, to Hay, on the Murrumbidgee. During five years' residence on the late Mr. G. Fairbairn's Eli Elwah, a station embracing an area of 166,000 acres, at the very outside a dozen Magpies were noted, and I think they belonged to the White-backed tribe. Besides, I made excursions into the surrounding districts with stock, and a 50-mile trip down river from Hay, and once some miles over the Murrumbidgee towards Booligal. In all these travels Magpies can be written down as conspicuous by their absence.

With regard to our singing Magpies, to careless observers they are merely birds; but if we study their habits, whether in captivity or their wild state, we will discover that in some ways they resemble human beings. Towards each other they display superciliousness. I had once a splendid chance to note the vagaries of five Magpies. These seemingly spent the greater part of their time on an open grassy slope running up from our ancient homestead. This party was split into two coteries —one a male with a female, the other a male with two females. As a rule Magpies towards each other are very friendly, but between these two sets there was an exclusiveness which, to speak figuratively, was unbridgeable. Although carefully watched, never at any time did they mix together. True, they might approach to within 20 or 30 yards of each other, but even then the line of demarcation was strictly observed, save that at times they did cross it to indulge in a brief skirmish. In feeding they were never a gunshot apart, and strutted about with an air of insolent hauteur. They carried their wings slightly drooped, the style in which they walked was expressive of scorn, and besides that action they appeared to talk insultingly. Occasionally one man, to "take down" another, or arouse his ire, will talk at him, and these birds apparently did the very same thing. It was highly amusing to watch them exhibiting undisguised contempt towards each other. I had them under my eye for months. The weaker faction nested, bringing a brace of fine youngsters, who in process of time fed around with their parents. The old gentleman with his two ladies, as far as known, made no attempt to construct a nest. For the matter of that, my experience shows that only a small percentage breed during the season. My opinion is that is a provision of nature to prevent them overlapping their food supply. The advent of the pair of youngsters caused no change with the five old birds—perhaps matters became worse. There was the same superciliousness, the insulting chatter, and the same little fights. One day the youngsters temporarily chummed in with their parents' rivals—a proceeding that did not apparently provoke discord.

To my thinking, if we wish to thoroughly understand a

Magpie, take the bird young, keep its wing clipped, and give it the run of the yard or garden. In the country it does not stray far; our most noted one did not wander beyond a hundred paces from the house, a good reason for not so doing being that it gave the free members of his tribe an opportunity to give the wanderer a good hammering. This bird had a keen memory and a truly affectionate disposition. One of my habits was to stretch on a bed to read; should the weather be warm I wore neither coat nor vest. If the door were open the bird came in, scrambled up, and sat on my chest; then, if she meant to indulge in a siesta, thrust her head under my shirt front. True, I was always particularly kind to this loving creature, and evidently she appreciated the kindness with which she was treated.

Those years before the exigencies of life had dispersed us we had a nice flower garden. One evening, drawing towards dusk, as I was doing some weeding, the bird came to me, and in order to ascertain what she would do, her presence was completely ignored. She kept moving about, uttering low cries that can only be spelt "*Hurrough.*" All those cries and capers no doubt were meant to draw attention to the fact that roosting time had come and she wanted to be helped into the little willow alongside the chimney. Here it must be remarked that the cries alluded to are used to express satisfaction; when wild Magpies are settling for the night the same utterance can be heard. The bird finally returned with a beetle, and mounted my bended knee, so bending downwards I opened my mouth, and Mag dropped in her gift. This appeal was not to be resisted, so, presenting my forefinger, she stepped on to it, and was hoisted to her perch. My chief objection to this pet was that she was mischievous in the garden, especially with newly set-out cabbage plants—sometimes pulling up upwards of a dozen one after the other. As soon as noticed these were re-set; the next time the damage was not so bad. When detected at such pranks, instead of beating her about, I gave her a great scolding, with the result that she assumed an attitude that struck me as being expressive of contrition, or otherwise put on an air of humiliation so comical that I was highly amused. It was apparent that she was aware that she had been guilty of wrong-doing. More could be said of this fine bird, but I will conclude, with respect to her, that she mysteriously disappeared.

Magpies in a state of nature seem to possess a sense of humour; in fact, without overshooting the mark, to a certain extent they are addicted to practical joking. Such pranks are not frequent, and perhaps they would not have come under observation had it not been for the fact that the forested glade near our residence was a famous night bivouac. They drifted in, in a leisurely manner, from the plains west of Jackson's Creek, in parties, some very small, others numbering as many as

fifty. In coming onward I have seen a joker catch up to one in front and give his tail a sly pull. On summer mornings when there was every indication of the day proving a scorcher numbers would remain under the shade, where some (youngish birds, I fancy) played hide and seek round trees and stumps. Of course, there was singing, but when the day began to cool down this lot went off to feed. With regard to coming in to roost, some came pretty early, others when dusk was well set in. Before the property was let on lease our charming timbered valley night and morning resounded with Magpie music. Subsequently an evil time set in for our carefully protected feathered friends, of which we were honestly proud, seeing that their presence in such large numbers gave an exquisite charm to the place. The bad state of things was brought about by the establishment of Industrial Schools on the erstwhile Sheoak Hill, near Sunbury. The impish boys quartered at the Institution took to snaring, thus it consequently followed that what shall be termed our stock of Magpies became greatly reduced in numbers. When the schools were abolished things became worse, because, under tenants, all wanton bird-murderers, had free license to do just as they liked. A good part of that time I was resident at Woodend. On one occasion, when visiting the old place, heaps of dead Magpies were seen lying about, shot from off their perches at night. There is a patch of gravelly ground in the district, always bare of herbage. From what has been noted this spot was used at times for social gatherings. One evening not long ago a goodly muster of Magpies was seen on it, singing merrily. This performance would be best described as a crowd of people talking all at once, with the reservation that every voice would require to be thoroughly musical. This mixed concert of theirs was delightful, yet, like everything vocal, it had to be heard to be thoroughly appreciated.

At this stage the question must be put—Are Magpies injurious birds? As far as my observation has gone, they are not, except odd years when their natural food supply runs short through an insufficient rainfall, in which case they will pull up sprouting corn. I imagine that the damage is not serious, still in certain localities I will concede that in that respect they may be a pest. Cultivators of the soil are apt to magnify the injuries Magpies may inflict on fruit and growing crops, likely for the reason that the law protects them. I have championed these birds in print only to get contradicted, but when one individual stated that neither gun nor stockwhip would drive the depredators off a field of germinating grain, my opinion was that the writer was drawing the long bow. Another person asserted that they danced on the branches of the trees in his orchard, thereby shaking off the fruit. Some years back there

were ten vineyards in the vicinity of Sunbury, one of them abutting on our property. It never came to my ears that Magpies touched grapes in any of these plantations. The vigneron's worst foes were Ravens, regarding which they had to be continually on the watch when the grapes were ripening. If the question of the damage done by *Gymnorhinae* to farmers and orchardists was carefully thrashed out, I venture to say that it would be found very trifling. Conceding that they may levy toll on these two classes of producers, what injury they may inflict on them is compensated for in the wholesale destruction of injurious insect life. On that account we should use our best endeavours to protect them and all other insectivorous birds. The usefulness of Magpies can be noted in another direction, in destroying small animal pests. Our pet bird would eat a dead mouse when thrown to her. Magpies in their wild state, according to the testimony of one of the Messrs. M'Nab, do kill mice. The gentlemen in question were the noted breeders of Ayrshire cattle, of Tullamarine, a tract of country lying between Essendon and Bulla townships. About seven years ago Mr. M'Nab said his district was swarming with mice, and they were found even under dry cow manure, where the Magpies searched and caught the animals. Prior to my removal to Gisborne, and thence to Newham, my observations had been confined chiefly to the Sunbury region. At Gisborne for the first time in my experience a Magpie was seen taking a dust-bath. This individual went through the performance just as a domestic fowl, doubtless for the same purpose—that is to say, to enable the shaking out of lice. In my travels thereaway another instance or two of the dust-bath was noticed. From this it will be noted, if we want to gain an intimate knowledge of the ways of birds, the sphere of our observations should be as extensive as possible. Here a useful suggestion has to be made as to how the usefulness or injuriousness of certain birds can be readily decided. The Melbourne weeklies either write or send forms to our leading agriculturists to be filled in, in order to form an estimate of a forthcoming grain yield. Now, my suggestion is, go to our prominent metropolitan journals and request the heads thereof, when collecting information, to add the following query—"Are singing Magpies (*Gymnorhinae*) and their allies (*Streperae*) injurious or useful birds?" Our newspapers not only seek information, but are also anxious to diffuse it, hence the conclusion is they would willingly fall in with this proposal. In the event of so doing, they might embrace other indigenous birds in the query. If so, we would gain a stock of valuable information.

Elsewhere allusion was made to the fact that only a small percentage of Magpies breed, but some years ago, taking in the creek frontage of the old station on both sides of the stream, if

there was one nest there were thirty. This state of things was brought about by having a very wet season, so wet that in summer time we had floods. True, if sheoaks had been as plentiful as of old, fewer nests would have been found along the course of the stream. Magpies are prone to display hostility towards other ground-feeders, still for all that the attacks they make on such are mere skirmishes, except at times that one may be seen chasing a Ground-Lark, with a bitter determination to capture the dapper little fellow. A chase of this description is a rare occurrence—probably in my career it was not witnessed more than twice or thrice. The start of the hunt was never seen; the first thing noted was the Lark, pretty high in air, with the foe in hot pursuit. The Magpie would swoop up to his intended victim; this the Lark would evade by a sudden swerve, consequently when the pursuer got going again the pursued had gained a good start. Whether a capture was effected is beyond me to say; even if it were the case, the pair would be too far away to note the climax. One thing that seemed plain was that the impelling motive was murder, and if accomplished we may take it for granted that the Magpie would eat the victim. In the long ago, when Grey Magpies (*Strepera*) came in numbers, it was very comical to see a pack of *Gymnorhine* set upon one of those unwarlike fellows. They did give him an unmerciful thrashing. I have seen them send him sprawling to the ground, and when he took wing again his tormentors pegged him on the back as he dashed forward to gain the friendly shelter of a tree. Whilst receiving his buffetings, poor *Strepera* screamed lustily. Once in his place of refuge his tormentors left him alone; then after a space he would start levering off loose bark, in search of insects, just as if nothing had ever occurred to upset his equanimity.

When dasyures (native cats) were in plenty, I believe they captured an occasional Magpie in low trees at night. A bird would be heard screaming as if being killed, some of his mates meanwhile uttering alarm cries, but after the prisoner had ceased to cry out, some of the other birds struck up a merry tune. What was the reason for this outburst of song is a difficult question to answer.

To conclude, it is satisfactory to note that many people praise Magpies for their songs. This is as it should be, for no person endowed with an ear for bird-music could listen to their beautiful voices without being charmed. Here, for instance, one September forenoon, having to go to Mickleham, I crossed the plain just below Fenton's Hill, on Bolinda estate. What it was for Magpies in olden times on the plains will never be forgotten. The songs of those near at hand rang out loud and clear, and the vocalisation of those afar off drifted down in what might be designated a faint, murmurous melody.

Stray Feathers.

THE BEE-EATER (*Merops ornatus*).—In last issue of *Emu* the writer of "Mallee Notes" says the last of these birds in migrating left about 27th February. They are here all the year round. Just now is midwinter, with cold mornings, almost frost. They come at sunrise to the fence a few yards from my bee-hives, sit there, and as the bees essay to take flight, catch them on the wing, slap them on the rail, and swallow them whole.—WILL M'ILWRAITH. Rockhampton, 1/7/07.

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CUCKOOS AND CROWS.—The two young Channelbills (*Scythrops*) and the young Crow left the nest together. The two former are still following the Crows, a flock of them, and I expect the young Crow is among them also, but, of course, I cannot recognise it. I said the *Scythrops* are following the Crows, but I think it is the other way about; the Crows do not seem to be able to take their eyes off the young "Storm-Birds," and follow them very closely. They are still being fed by their foster-parents, but whether more than one pair feed them I am unable to say.—F. L. BERNEY. Richmond, N.Q.

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RUFOUS BRISTLE-BIRD.—Few members of the A.O.U. have opportunities equal to those of Mr. George Graham, of Scott's Creek, Vic., for observing the Rufous Bristle-Bird (*Sphenura broadbenti*). Like others who have come in contact with it, Mr. Graham has remarked the striking resemblance in its habits it bears to the Coachwhip-Bird (*Psophodes crepitans*). The male Bristle-Bird makes the first long call-note, and then is answered immediately by the female, usually some distance away. Although not furnished with a crest, its habit of erecting the crown feathers when startled gives it, to one who gets but a momentary glimpse of it, the appearance of a crested bird.—W. J. STEPHEN. Hawthorn, 16/5/07.

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BLACK SWANS NESTING.—On 8th July, 1907, I observed three Swans' (*Chenopsis atrata*) nests on Monivae Swamp, about four miles from Hamilton. One contained five eggs, which were evidently addled; the other nests contained fresh eggs. This is the earliest date on which I have found Swans' eggs in this locality. Late in October, about three years ago, I found several nests with fresh eggs in a small swamp at the back of Mount Sturgeon, one being about 10 yards from a lane through which vehicles and horsemen not infrequently passed. It had been an unusually wet spring, the swamps had been badly flooded in September, and no doubt many of the nests built earlier had

been washed away. The same year I found a Native Companion's nest near the Wannon on 12th December, which is the latest I have ever known for that bird here.—G. P. TAIT. Hamilton, 30/7/07.

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PHOTOGRAPHING HERONS' NESTS.—Photographing in 'the tree-tops is not an easy task. If a person acquainted with photography remembers how difficult it is to focus and photograph animal nature on *terra firma*, he can readily understand how awkward and how handicapped he would be were he *minus* an arm and a leg when engaged in this operation. But to be so handicapped on mother earth is simply play to photography in mid-air in the giddy heights of a tree-top—"flora infirma." Besides being *minus* an arm and both legs, which are necessarily occupied to their utmost capacity maintaining the equilibrium in the tree, one has to contend with the swaying of the limb also. In this unstable posture there is but one hand available to adjust the camera and affix it to the bough, and the adjustment of the focus is rendered all the more awkward since the climber is trembling and almost breathless with his exertions—that is, provided he has climbed some distance—and is also very often half-blinded with either perspiration or fibrous dust dislodged from the bark of the tree.—A. H. E. MATTINGLEY.

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USEFUL BIRDS.—Mr. Geo. Graham, of Scott's Creek, near Cobden, Victoria, furnishes a note in illustration of the value of our insectivorous birds. During the autumn in his district, there was a plague of black crickets, which did serious damage, but their ravages were largely checked by the efforts of their bird enemies, among which were Wood-Swallows (*Artamus sordidus*) in hundreds, White-fronted Herons (*Notophoyx novæ-hollandiæ*), White-fronted Chats (*Ephthianura albifrons*), Pipits (*Anthus australis*), Kestrels (*Cerchneis cenchroides*), Laughing Jackasses (*Dacelo gigas*), White-backed Magpie (*Gymnorhina leuconota*), Spur-winged Plover (*Lobivanclus lobatus*), and Stubble Quail (*Coturnix pectoralis*). It is perhaps not generally known that the Stubble Quail can vary its usual diet of seeds, but the crops of several which were examined were found to contain plump crickets. As bearing on the great question of migration, Mr. Graham remarks that the Wood-Swallow above mentioned is in his district very regular in its time of departure—about the first of May—and, although in May of this year the season was like summer, and the crickets were at the egg-bearing stage, when they would form tempting morsels for insectivorous birds, yet the Wood-Swallows did not prolong their sojourn in the slightest degree.—W. J. STEPHEN. Hawthorn, 6/9/07.

HALCYON SANCTUS AND ALCYONE AZUREA.—I notice that Mr. J. W. Mellor states that the Blue Kingfisher is the only species of Kingfisher found in Tasmania. In this he is not quite correct, as we have *Halcyon sanctus* with us during the summer months, though neither of them are what you would class as common birds. On referring to Campbell's "Nest and Eggs," I notice that he gives Tasmania in his distribution of *H. sanctus*. I have observed *Alcyone azurea* on several rivers and creeks about Hobart, but not for the last three or four years; but this may be because I have not been afield so much. *H. sanctus* I have noted several times during the last two years near the Derwent in the summer months, once as early as the 4th August, (1905). When I was riding my bicycle from my house, situate some three miles out of town, to my office, I saw *H. sanctus* sitting on a boat-house, and as it was so early in the season I stopped to observe him for some time. He flew down to some stones which were surrounded by about a foot of water, which at this place is quite salt. I was much interested in his movements, as I always understood that they did not fish like *A. azurea*, and you can imagine my astonishment, when, after looking intently in the water for some moments, he plunged boldly in and emerged with a small fish about two inches long in his bill, which he proceeded to grasp by the tail, gave it a sharp whack on the stone on which he was sitting, and then swallowed it; he sat there all bunched up for two or three minutes, and then suddenly drew himself up, dived in again, and another fish was added to his morning's meal. How long this would have continued I know not, but, unfortunately, a Silver Gull came along, and off flew my little friend further up the shore, and I saw him no more that morning. Next morning I again saw him, but this time he was feeding amongst some seaweed, too far off for me to note what he was eating. I do not know if any of our members have had similar experiences or not, but Gould in his "Handbook" states that he "has never seen it plunge into the water after its prey like the true Kingfisher, and that he does not believe that it does," but relates that it kills insects, &c., by beating them on rocks in just the same manner as I have described this one did to kill the fish.—A. L. BUTLER. Hobart, 10/7/07.

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BUTCHER-BIRDS FIGHT.—

" Nature, red in tooth and claw
With ravine —— "

An illustration of this line from "In Memoriam" was presented to us a few days ago while returning from a day's tramp among the hills and gullies bordering the South Esk River. Mr. Thompson and myself were proceeding late in the afternoon along the ridge of a timbered slope when the loud cries of a

bird, apparently in distress, struck upon our ears. We at first took the voice to be that of a Noisy Miner (*Myzanthes garrula*), and scanned the horizontal branch of a gum-tree not far above our heads to try and discover the cause of the outcry. After a few seconds the sounds appeared to come from a clump of bracken near the foot of the eucalypt; Thompson proceeded thither, and, after glancing into the thicket, called to me. On joining him I was amazed to see two Butcher-Birds (*Cracticus cinereus*) engaged in deadly strife—one stretched upon his back on the ground, the beak partly open, uttering shrill cries of distress; the assailant lying upon him, having driven the hooked point of the long, cruel beak in so far just behind the base of the other's mandible that he was quite unable to withdraw it, and thus himself remained a prisoner. The assailant's left foot was clasping the prominent wing joint on the lower bird's right, and his right foot was forced against the other's left cheek, behind the point where the beak was indrawn. Thus interlocked, they were absolutely powerless to move, and no doubt would have perished miserably had we not fortunately dropped upon them in the nick of time. My friend raised them in his hands, they being unable to offer any resistance, and while thus held I took a short stick, and, after several attempts, succeeded in pushing back the assassin's beak until the hooked point was clear of the bone in the other's head, thus enabling it to be withdrawn. The stick was also requisitioned to unclasp the left foot, which clutched the wing, the claws having become so fixed in their intense grip that they could not voluntarily let go. After we succeeded in separating them from their deadly clasp, they immediately showed their gratitude by biting fiercely at Thompson's fingers, so indomitable was their spirit! The first one released flew away towards the creek, probably to slake the burning thirst engendered by his fierce exertions; the other was carried some distance from the field of battle, and then allowed to escape among the bushes. Both were in splendid plumage, and evidently in the pink of fighting condition. What was the cause of the conflict? Scarcely a lady *Cracticus*, seeing that the season is late autumn. Perhaps some tit-bit which they espied simultaneously; or may it not have been just the "certaminis gaudium," that fierce "joy of battle," which obtains so strongly in the breasts of these minor birds of prey.—H. STUART DOVE. Launceston, Tas., 24 5 '07.

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AN ABNORMAL SEASON.—In this district (Talbragar River) there is something unusual about the habits of birds this winter. A great many varieties have been nesting during the last six weeks. Although such a bird as the Whistling Eagle (*Haliastur sphenurus*) has been known to breed in every month of the year,

this is the first year I have noticed them nesting here during the winter. On 29th May I observed a nest with two young birds almost ready to leave their home. During July I noticed four pairs of birds breeding, and up till the present date (9th August) four nests this month. I have noticed the following birds nesting during the last six weeks:—Ravens (*Corone australis*), Whiteface (*Xerophaila leucopsis*), Miners (*Myzantha garrula*), Brown Tree-creepers (*Climacteris scandens*), Red-tipped Pardalotes (*Pardalotus ornatus*), Red-backed Parrakeet (*Psephotus haematonotus*), Spur-winged Plovers (*Lobivanellus lobatus*), and the Black-breasted Plovers (*Zonifer tricolor*). In the last issue of *The Emu* (vol. vii., p. 30), I made the remark that the Warty-faced Honey-eaters (*Meliphaga phrygia*) appeared to be going to winter with us; this they have done, also the Cockatoo-Parrakeets (*Calopsittacus novæ-hollandiæ*) and the Red Wattle-Birds (*Acanthochæra carunculata*). With regard to the latter, I am not sure that this is the first year that I have known of any to remain the winter, but never before have I seen them in such large numbers; they are not only to be seen by the river, but throughout the district. I notice in Mr. A. J. Campbell's "Nests and Eggs" he remarks that in the years 1853-1860 Wattle-Birds were very plentiful at Frenchman's, Amphitheatre, Warrnambool, and other places in the Western District of Victoria, where 70 birds might be easily shot in a morning. In certain localities within a few miles of here just now I am sure it would be no very difficult matter to shoot 170 in a morning. I had occasion to drive to Dubbo and back this week, and the whole way along the road these birds were to be seen in great numbers; even in Dubbo an odd bird was to be seen. Upon my return journey I stopped in a thick pine scrub about 17 miles from here for lunch. At this spot the birds appeared to be exceptionally numerous. I walked about a mile into the scrub to see if any of the birds were yet breeding, and although I saw no nests, I noticed most of the birds were in pairs. A great many varieties of birds have wintered with us this year in much larger numbers than I have ever known before. Why this should be I cannot understand. Perhaps it is on account of the severe drought in other parts of the State. This month I have also seen young White-winged Choughs (*Corcorax melanorhamphus*) and Babblers (*Pomatorhinus temporalis*) which had already left the nests.—THOS. P. AUSTIN. Cobbora (N.S.W.), 9/8/07.

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ANNOTATIONS.—*Mesophoyx plumifera* (Plumed Egret).—Mr. A. H. E. Mattingley's articles ("Heronries" and "Plundered for Their Plumes") in this issue will be read with interest and shame—interest, because bringing to our knowledge the breeding place of a rare bird, with eggs hitherto undescribed;

and shame, because of the ruthless destruction of breeding birds by vandals. The Plumed Egret was found breeding in company with its larger cousin, *Herodias timoriensis*, in the tall red gums (eucalypts) standing in the backwaters of the River Murray. *Eggs*.—Clutch, three or four; broad ellipse in shape; texture of shell somewhat coarse; surface slightly glossy, with here and there tiny nodules, and in some examples creases; colour, bluish-green, more or less besmeared with bird-lime. Dimensions in inches of two clutches:—A—(1) 1.86 x 1.37; (2) 1.86 x 1.4; (3) 1.9 x 1.38. B—(1) 1.86 x 1.39; (2) 1.87 x 1.42; (3) 1.94 x 1.4; (4) 1.95 x 1.4. Mr. Mattingley exhibited these eggs at the August meeting of the Field Naturalists' Club of Victoria. (See *Vict. Nat.*, xxiv., p. 84.) For description of the nests see his article (in this issue), p. 69.

Ptilotis sonora (Singing Honey-eater).—This fine species enjoys a wide range, and is evidently a hardy bird. My son, Mr. A. G. Campbell, brought home a clutch of three fledglings from the Anglesea coastal district (south-west of Port Phillip), where he described these Honey-eaters as very plentiful, welcoming in all directions the break of day with their merry calls. The youngsters were readily reared on sifted "Lark-food," moistened with honey-water, and flies. They became great pets in the aviary, and when anyone entered they would perch on the shoulder or bare head, and readily take flies from the palm of the hand. They did not sing in the way that their name would suggest, but uttered lively calls, and occasionally mimicked the alarm note of their cousin, *P. penicillata*, which occupied the same aviary. When the cold weather arrived only one Singing Honey-eater remained. It was transferred to Miss Bowic's aviary, where, with other Honey-eaters, it received regular attention. I think this is the first occasion that this bird has been kept in captivity. It makes a most charming pet, and assumes almost adult plumage from the nest.

Hylacola pyrrhopygia (Chestnut-rumped Ground-Wren).—This rare bird was recently found in the Dandenongs, near Melbourne. Mr. W. E. Molesworth forwards another specimen, which he procured at Lethbridge last May. He states:—"I have flushed this bird in a piece of country a few acres in extent, in the centre of a stringy-bark forest, where grass-trees (*Xanthorrhœa*) are growing quite alone on sandy soil. The birds are hard to flush, but can be traced by their singing or calling to each other."—A. J. CAMPBELL.

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ACANTHORNIS MAGNA.—On page 210, vol. vi., of *The Emu* the following question is asked—"Did Union members—as to *Acanthornis magna*—kill the last of the tribe, or was it the

first?" I think I can answer both queries. They certainly did not kill the first, nor yet the second, as I believe that I can claim the doubtful honour, at any rate as far as being one of the first two recorded specimens—*vide* a paper read before the Victorian Field Naturalists' Club, 12th November, 1883, by Mr. A. J. Campbell, and also published by him in "Nests and Eggs of Australian Birds," and later on again included in his completed work and published in 1900. So much for the first. As to the "last of the tribe," that has not been killed yet, and I hope will not be for many years to come, as will be seen from the following notes:—In the early part of last December I was staying for a week at Glenora, and on several occasions I saw *Acanthornis magna*—one pair feeding three young ones who had left the nest within a day or so, both male and female being busily employed bringing grubs and small beetles to help to fill up those three little yellow caverns which seemed to lead to unknown depths, as I counted 83 trips for both parents in 20 minutes, and, like Oliver Twist, they still "asked for more." It was most interesting to watch these proceedings. There were the three little hungry creatures sitting huddled close together on a bough of native musk, and as soon as they heard papa or mamma calling in the distance each would give a little "cheep" as though to guide them to where their hungry children were; when they came near there was such a bustling and pushing amongst the three to get the coveted morsel, such fluttering of wings and wild cries, then a gulp, a sort of satisfied gurgle, and then silence. This performance was repeated every time either of the parents brought anything edible. Only once did I see the larger of the three snatch the tempting morsel from his brother's or sister's mouth; the number of times each nestling was fed being 28, 26, 29, and yet the father and mother were not present together and did not see which young one had been fed last. Sometimes they would both feed the same one, but more often would feed the one on either side and then the middle one. Several times the mother remained with the young while the male bird was away hunting, and it was a very pretty sight to see how she attended the little ones, preening their feathers and pulling off little bits of fluff, and generally making them look smart against their father's return. In conclusion, I may state that *Acanthornis magna* is not a rare bird, in my opinion, if one knows its habits and where to look for it; but, being a scrub bird, it naturally retreats farther away as the land is cleared, especially the creeks and gullies, which are its natural haunts. In a former paper read by me before the Tasmanian Field Naturalists' Club, and published in *The Emu*, vol. i., page 157, I gave a list of places where I had noted *Acanthornis magna* which covered a wide area of the south of Tasmania.—A. L. BUTLER. Hobart, 10/7/07.

THE LYRE-BIRD.—On the 14th May, 1907, I was visiting Cowra Creek, in the Macannally Ranges, in New South Wales. The ranges are very steep and well wooded with somewhat stunted stringy-barks (*Eucalyptus obliqua*) and other eucalypts. There is very little undergrowth. The only dwarf bushes that attracted my notice were a species of *pultenaea* closely allied to our *Pultenaea daphnoides* and a *bursaria* allied to *B. spinosa*. Most of the gullies were exceptionally bare of undergrowth, although there were fairly thick patches of wattles (*Acacia dealbata*) on the moister bottoms. Fern was mostly conspicuous by its absence. It will thus be seen that there are evidences that the climate formerly resembled somewhat that of the Mt. Lofty Ranges, the altitude being probably about 4,000 feet. But at the present time, and, I am informed, for the last ten years, the district has been exceedingly dry, and I should doubt from appearances whether the rainfall has equalled that of the "foot-hills" near Adelaide.

In spite of these unlikely conditions the Lyre-Bird (*Menura superba*) is very numerous. I saw evidences of their recent scratching in all the gullies and hill slopes visited, and on the edge of the creek bank I inspected one of their "seats" or play-grounds, evidently used by the bird on the previous evening. I was informed that in this district the birds never nest on the ground, but always in hollow tree trunks or trees, often at a considerable height—20 feet, 30 feet, and, I was told, 40 feet high. The open nature of the country and the lack of cover will probably account for this habit. From what I could learn this has been the persistent practice of the Lyre-Bird in this district for many years prior to the advent of foxes. One nest I examined was built in the standing stump of a fallen burnt tree. The bottom of the nest on the upper side was 5 feet 6 inches from the ground and a foot more on the lower side. The V-shaped hollow below the nest proper had been filled in by the birds with clay or mud, then a layer of sticks and again more clay, another layer of sticks and clay. On this solid foundation the nest proper was built, formed of sticks, twigs, bark, &c. Two nests were built close to where the miners were working and in full sight of their workings, the birds appearing quite heedless of the noise caused by the operations of mining. At other times the birds are exceedingly difficult to approach, except when engaged in "song" or mocking.

Amongst the varied sounds of the bush these birds imitate in these ranges was that of "knapping" (chipping off bits of stone) by prospectors. My informants, Mr. Murray and his son, came upon a bird making this sound when they were expecting to find a miner. It is quite evident from observations that this bird can be acclimatised without any difficulty in the Mt. Lofty

Ranges (South Australia), and there is not the slightest doubt that the conditions that prevail in the neighbourhood of Western River or Snug Cove in Kangaroo Island will meet all their requirements. No time should be lost in introducing this wonderful bird into these places. (Read before the S.A. Ornithological Association, 6/6/07.)—EDWIN ASHIBY. Blackwood (S.A.)

* * *

ROSELLA AND CRIMSON PARRAKEETS.—The Rosella (*Platycercus eximius*), though a bird of exquisite beauty, candidly speaking is a thorough scamp, only excelled in sheer impudence by that orchard pest the Musk-Lorikeyet (*Glossopsittacus concinnus*). This "cheeky" species has a large head, seemingly a brain-weight equal to that of a Rosella. Notwithstanding, the Lorikeyet has either no sense of danger or will not be educated into it. If a person takes his stand under a richly-blossomed eucalypt, numbers of shots may be fired at them. Not so with Rosellas. They will cut at the first pop, unless a winged bird is made to scream, when his mates flock in to investigate. We will now put Rosellas on trial for damaging crops. In the vicinage of Woodend North (Shire of Newham), a white gum country, with a good amount of dead timber and green, these Parrots are numerous. On the block specified there are several dams, and the land is tilled, hence conditions favour the presence of this bird. It was noted that on certain flats considerable damage was done to grain from the time it became eatable until placed in stack. Alighting on the tops of the sheaves, besides taking their fill, they shelled much, which fell upon the ground. To me this waste appeared considerable, but taken for the whole field the loss would not be serious, because if it had people would have tried to cope with the pest. That farmers made no attempt to destroy them is proof that they were not considered a serious nuisance. Since taking up my quarters here (two miles from Drouin) Rosellas have been carefully observed in my sister's garden—a plantation of upwards of 100 fruit trees of various descriptions. When the fruit season arrives, Rosellas in small parties make frequent raids, with fatal consequences to themselves, because one or two are shot. Concerning these marauders my opinion is if not molested others would chum in with them—an increase of invaders means an extension of havoc amongst the fruit. About Drouin there are some extensive orchards. So far, no complaints have reached me to the effect that this bird is a fruit pirate. Since the commencement of this month (June) at this place they have started nipping off the ends of the future fruit-spikes of pear trees. Whether this is done to sharpen their

bills or to eat the tender buds I am not sure, because the moment they are noticed the gun is brought out. Last year on two occasions a few short rows of garden peas were planted. Not being closely watched, as the sprouts appeared "pretty Joeys" hooked up every one. More could be said concerning this lovely creature, but it has been dwelt on long enough, so by way of an appropriate ending, the plough with the axe has enlarged its empire to such an extent that extinction is an impossibility.

Crimson Parrakeet (*Platycercus elegans*).—As far back as can be remembered this bird was called the "Lory." I can remember it on the Plenty River, where my father was overseer to Mr. E. T. Flintoff on what is now Oldstead, near Greensborough. It was about the year 1843 that I saw Mr. Batey throw a stick at a flock of these Parrots, either on a newly-sown paddock or alongside of cornstacks. It is highly probable that they are not to be found there now. *P. elegans* is one of those birds that has been pushed back by settlement—not a matter to be wondered at, because, as far as my observation has gone, it displays a partiality for thickly timbered tracts. In passing through a large extent of the Black Forest, near Mt. Macedon (though all useful timber is cut down, in parts it is dense enough to this day, owing to the fact of natural replacement), where real forest gloom prevails, if a Parrot is to be seen it is bound to be *P. elegans*. Herein it differs from the Rosella, a creature that may be termed a bird of sunshine, seeing that it has a leaning towards open forest country. By the way, one year, near Lancefield, season now forgotten, some Crimson Parrakeets were feeding in eucalypts, which to the best of my recollection were not in flower. One or two birds were knocked over, and when cooked were unpleasant eating—rather a surprise to me, because at other times I had found them as good as Rosellas.

Hybrid (? Gould's *Platycercus ignitus*).—My first knowledge of this Parrot was derived from Mr. James Notman, of Mt. William, near Lancefield, in 1882. He described it as a cross between a Rosella and a Crimson Parrakeet as far as colour was concerned. From where his old homestead stands a wide valley is crossed, then a low ridge, and after that a blind creek. In this we are going to Kilmore. Mr. Notman, in speaking of those Parrots, said—"I have never seen them on this side of the creek," meaning, of course, Mt. William side. I subsequently saw the specimen, and observed that my informant's description was correct in that it appeared a hybrid. Latterly, visiting the National Museum, I saw similar birds.—ISAAC BATEY. Drouin. [Mr. Batey's interesting remarks were read at the June meeting of the B.O.C.—EDS.]

AN AUTUMN OUTING.—Mr. H. C. Thompson and myself had an interesting afternoon among the birds in the neighbourhood of Launceston recently. Taking our way through the grand columnar rocks of Cataract Gorge, we turned at right angles and entered a wooded gully, down the centre of which is the course of a stream. Owing to the continued dry weather this autumn, the lower part of this course is now quite dry, but the tree-ferns shooting up from its rocky bed do not yet appear to have felt the effect of this unusual drought, but wave their fronds as luxuriantly as before. From the end of the Gorge, just before turning into the track alongside the watercourse, a fine Shrike-Thrush (*Collyriocincla rectirostris*) flew from almost under our feet and retreated into a patch of scrub ; we notice that this bird, in the comparatively open bush around our town, appears smaller and much lighter in tint than the same species which lives amid the great timbered tracts of the north-west of our island. Having entered the gully, a party of three Grey-tailed Thickheads (*Pachycephala glauca*) entertained us with their tuneful whistling among the young gums just across the creek-bed ; their throats were whitish, but we could not see any development of the rich yellow hue which adorns the breast of the matured male. A Fire-tailed Finch (*Zonæginthus bellus*) flew along before us, and soon after we espied a beautiful Strong-billed Honey-eater (*Melithreptus validirostris*) sitting on the topmost peak of a small dead tree, enjoying himself in the genial sunshine. This species is much more familiar than its congener, the Black-headed Honey-eater (*M. melanocephalus*), and I have often seen it come about the gardens of the North-West Coast in winter time to feed on the nectar of the crested wattle, that very early-flowering acacia which has come to us from Westralia. Amid a patch of bracken the Browntails (*Acanthiza diemenensis*) were uttering their sweet wild notes, and one which appeared amid the heads of the fern was a very well developed specimen, seemingly larger and darker in tint than the rest. Finding at length a good pool of clear water in the upper part of the rocky creek bed, we camped for lunch, and having boiled the billy and infused the Bohea, we fell to with good appetites, as it was then after two o'clock. Mr. Thompson had selected a delightful spot, sheltered from sun and wind and overhung with small blackwoods and wattles (acacias). Here the notes of the "Ground Diamond" frequently reached our ears—not the familiar "ding-dong" utterance of spring, but a sequence of three rapid notes, usually answered by a peculiar "purring" sound, perhaps uttered by the female. The beautiful mellow calls of the Yellow-throated Honey-eater (*Ptilotis flavigularis*) were also heard now and again, and seemed to fit in perfectly with our surroundings ; somehow I always think of the Bulbul, as sung by the poets of the Orient, when enjoy-

ing the musical utterances of this fine Honey-eater. During our ramble between lunch and sundown many interesting nests were inspected, although, of course, tenantless at this season; for instance, that of a Grey-tailed Thickhead about 15 feet up in a prickly box, built of strips of peppermint bark, and lined very neatly with fine native grasses. My companion has found that the "Derwent Jackass" (*Cracticus cinereus*) always employs the shining seed-stalks of a native grass for lining purposes. The flask-like nests of Firetails were often under observation, usually in a prickly shrub or a small bushy-topped wattle, about 5 feet up, and constructed of coarse grass. While travelling through the Buchan district of Victoria in company with a friend, during the past summer, we discovered a nest of this species in February with three fresh eggs—very late house-keeping this! When building, this bird uses a lot of green grass. In a dogwood (*Pomaderris*), where a convenient cavity had been left among a lot of shoots at a height of about 6 feet 6 inches from the ground, was placed the home of a Shrike-Thrush, formed of strips of dry cassinia bark, and lined with fine grass and rootlets. Another was placed about 4 feet up in the midst of a green cassinia bush—a fine, big, circular nest, which measured $8\frac{1}{4}$ inches in diameter taken right across the top, $4\frac{1}{4}$ inches inside diameter, and 3 inches deep. The method of construction was most ingenious: on the outside strips of peppermint gum bark were wound round and round; inside this was a layer of bark passed under the bottom of the nest instead of being wound round it, the ends coming vertically up the sides, and with this were gum leaves, also placed vertically; then another wall of horizontal bark-strips and leaves, the latter being also placed lengthwise to correspond with the bark. Where the ends or sides of leaves had projected above the top of the wall, the sharp beak of the Thrush had clipped off the offending portions as neatly as if done with scissors. The usual inner lining was employed, and a beautifully warm and secure home was the result of the indefatigable labours of these clever architects. High up in a white gum which grew in the gully was placed the nest of the Brown Hawk (*Hieracidea orientalis*) on a limb partly dead; two other of these bulky stick structures were espied near the top of a giant gum of the same species, probably 150 feet up, and placed on branches which were very conspicuous. These two would probably be built in different seasons by the same birds, as it is improbable that two pairs could exist in such close proximity. One of our most interesting inspections was that of a Dusky Robin's (*Petroica vittata*) home, built in a very unusual spot. This plain-plumaged little bird usually selects a niche in a hollow tree, or a site amid the roots which project from the butt of an overturned giant; but in this case it had chosen the horizontal limb of a dogwood tree

about 10 feet from the ground, and had placed the structure amid thick foliage, so as to be practically invisible. Mounting on to my friend's broad shoulders, I was enabled to make a close inspection, and found the principal material to be, as usual, fine rootlets, the top edge of twigs bound with cobweb; the lining was of grass, rootlets, and fine bark.—H. STUART DOVE. Launceston, 19/5/07.

* * *

SOME BIRDS OCCURRING IN AREAS 8 AND 9 OF AUSTRALIA, NOT GIVEN IN HALL'S "KEY" (SECOND EDITION).—Some time since I received a copy of Mr. R. Hall's second edition of "Key to the Birds of Australia." The idea of giving the meanings and derivations of the various species and genera is an excellent one, interesting and instructive, but it was unfortunate, when Mr. Hall was bringing out a new edition, he did not give more attention to the distribution of species. Of course there can be no hard and fast boundary lines of any of the areas into which Australia is ornithologically divided on paper for convenience, but still the following list of species (to which I called Mr. Hall's attention soon after the publication of the first edition of his "Key") shows that the working out of the distribution of them has been very imperfectly done, at any rate for areas 8 and 9, and the list may prove of interest and use to other ornithologists. I know that Mr. Hall considers that the North-West Cape region should be included in area 9, but I maintain that it ornithologically forms part of area 8. For one reason, out of the enclosed list of 56 species 42 of them rarely occur as far south as Geraldton, leaving only 14 that appear to occur generally through S.W. Australia. Mr. Hall seems to be rather confused in his descriptions of the various *Pachycephala*—e.g., he describes *Pachycephala gilberti* as possessing a "black pectoral collar." This bird is not uncommon about Katanning and Broome Hill, but apparently Mr. Hall did not procure any specimens when he was in this vicinity in 1899.

List of birds observed and identified by me which are not marked in Mr. Hall's "Key" as occurring in area 9. Those marked with an asterisk are not marked in Mr. Hall's "Key" as occurring in either area 8 or 9:—

		Observed
4.	<i>Haliastur girvenera</i>	.. Gascoyne River to N.W. Cape
26.	<i>Accipiter cirrhocephalus</i>	.. Albany to N.W. Cape
44.	<i>Corvus coronoides</i> Albany to N.W. Cape
84.	<i>Lalage tricolor</i> Albany to N.W. Cape
122.	<i>Malurus leucopterus</i>	.. N.W. Cape region
175.	<i>Stipiturus ruficeps</i>	.. N.W. Cape
*195.	<i>Acanthiza uropygialis</i>	.. N.W. Cape
229.	<i>Pomatorhinus rubeculus</i>	.. Minilya River
230.	<i>Cincloramphus cruralis</i>	.. Broome Hill to N.W. Cape
*242.	<i>Sphenostoma cristatum</i>	.. Gascoyne River to N.W. Cape
248.	<i>Cracticus nigrogularis</i>	.. Mingenew to N.W. Cape

Observed

*264. <i>Pachycephala melanura</i>	..	N.W. Cape
*305. <i>Zosterops lutea</i>	..	N.W. Cape
*347. <i>Ptilotis leilavalensis (carteri?)</i>		Mingenew to N.W. Cape
345. <i>Ptilotis heartlandi</i>	..	N.W. Cape
*381. <i>Pardalotus rubricatus</i>	..	N.W. Cape
*388. <i>Petrochelidon nigricans</i>	..	Albany, Broome Hill to N.W. Cape
404. <i>Emblema picta</i>	..	N.W. Cape
*430. <i>Micropus pacificus</i>	..	N.W. Cape
437. <i>Podargus strigoides</i>	..	Broome Hill to N.W. Cape
449. <i>Dacelo cervina</i>	..	Gascoyne, Lyons, and Minilya Rivers
*453. <i>Halcyon sordidus</i>	..	N.W. Cape
488. <i>Cacatua gymnocephala</i>	..	Gascoyne River to N.W. Cape
492. <i>Calopsittacus novæ-hollandiæ</i>		Geraldton to N.W. Cape
*547. <i>Geopelia tranquilla</i>	..	Gascoyne River to N.W. Cape
552. <i>Histriophaps histrionica</i>	..	Gascoyne River to N.W. Cape
560. <i>Ocyphaps lophotes</i>	..	Gascoyne River to N.W. Cape
*562. <i>Coturnix pectoralis</i>	..	N.W. Cape
574. <i>Turnix velox</i>	..	N.W. Cape
*596. <i>Orthorhamphus magnirostris</i>		N.W. Cape
598. <i>Glareola orientalis</i>	..	N.W. Cape
603. <i>Erythrogenys cinctus</i>	..	Broome Hill to N.W. Cape
*607. <i>Squatarola helvetica</i>	..	Albany and N.W. Cape
*608. <i>Charadrius dominicus</i>	..	Albany and N.W. Cape
*609. <i>Ochthodromus bicinctus</i>	..	N.W. Cape
610. <i>Ochthodromus geoffroyi</i>	..	N.W. Cape
*611. <i>Ochthodromus mongolus</i>	..	N.W. Cape
*612. <i>Ochthodromus veredus</i>	..	N.W. Cape
*628. <i>Heteractitis brevipes</i>	..	N.W. Cape
*640. <i>Calidris arenaria</i>	..	N.W. Cape
*643. <i>Gelochelidon anglica</i>	..	N.W. Cape
*644. <i>Hydropogone caspia</i>	..	Albany to N.W. Cape
*646. <i>Sterna media</i>	..	N.W. Cape
648. <i>Sterna frontalis</i>	..	N.W. Cape
703. <i>Geronicus spinicollis</i>	..	Broome Hill to N.W. Cape
705. <i>Platalea regia</i>	..	N.W. Cape
*716. <i>Demicorax sacra</i>	..	N.W. Cape
717. <i>Nycticorax caledonicus</i>	..	Swan River to N.W. Cape
*718. <i>Butorides stagnatilis</i>	..	N.W. Cape
*729. <i>Plotus novæ-hollandiæ</i>	..	N.W. Cape
*735. <i>Fregata ariel</i>	..	N.W. Cape
*736. <i>Phaethon rubricauda</i>	..	N.W. Cape
739. <i>Podicipes novæ-hollandiæ</i>	..	Broome Hill to N.W. Cape
745. <i>Anser semipalmata</i>	..	Broome Hill to N.W. Cape
*755. <i>Nettion gibberifrons</i>	..	N.W. Cape
125A. <i>Malurus assimilis</i>	..	N.W. Cape

I may also remark that in *The Ibis* for 1902 Mr. Hall records as collected by himself in S.W. Australia the following species:—*Lalage tricolor*, *Malurus lamberti*, *Sphenostoma cristatum*, *Ptilotis leilavalensis*, *Petrochelidon nigricans*, *Hydropogone caspia*, and *Accipiter cirrheophalus*, but does not include them in area 9. Also, in his "Key," No. 18A, *Certhneis unicolor* (Milligan) is

marked as occurring in area 8, and 240A, *Xerophila castanei-ventris* as occurring in area 9. The former (*C. unicolor*) was obtained at Yalgoo, east of Geraldton, and the latter (*X. castanei-ventris*) was obtained at Day Dawn, which is N.E. of Yalgoo!—
TOM CARTER. Broome Hill (W.A.), 24/6/07.

Forgotten Feathers.

“GALDENS,” alias “GAULDINGS.”

BY TOM CARTER, BROOME HILL, W.A.

REFERRING to previous correspondence respecting Dampier's “Galdens” (*Emu*, vol. vi., pages 152, 207), the following descriptive account of the “Gaulding,” which is given below word for word as printed in an old volume now in my possession, will, I think, be of interest to many ornithologists, and also prove that it is by no means certain that by “Galden” Dampier meant the Little Mangrove-Bittern (*Butorides stagnatilis*).

I have had the volume in question for some time, but only noticed the reference to *Gaulding* this week, when I had taken up the work to improve an idle evening. The book was published on 1st January, 1808, by H. D. Symonds, and contains a short life of George Louis le Clerc, Count of Buffon, by Condorcet, and also parts of Buffon's “Natural History.” But, unfortunately, though the book is a bulky one, and has many coloured plates, it is incomplete, and does not contain a plate of the bird in question, the only birds figured being the “Avocetta” and “Crown-Bird.” Buffon's description of the “Large White Gaulding” might well be for the Large White Egret, but what species of *Herodiones* his “Blue Gaulding” referred to gives room for much theory, as the birds he described are apparently taken haphazard from all parts of the world, and are without classification. The “Gaulding” comes between the “Curasow” and “Otis,” and a few pages further on are accounts of the “Red-legged Horseman,” the “Pokkoe,” the “Umbre,” the “Kokoi,” &c.

The “Sheathbill” and “Fan-tailed Flycatcher” are briefly mentioned as hailing from New Zealand. The birds mentioned as being so numerous in Greenland were probably one of the *Alcidæ*, possibly *Alca impennis*, and do not appear to have much bearing on the “Gaulding.”

EXTRACT FROM BUFFON'S “NATURAL HISTORY.”

THE GAULDING.

There are several varieties of this species, the most remarkable of which is the *Large White Gaulding*, which measures from the end of the bill to that of the tail about three feet and a half, and about four feet from the extension of each wing; the bill is very long, angular, and of a yellow colour, in which there are two long slits for nostrils. The neck is very crooked, resembling in some degree a Roman S, and is about eleven inches

long. The feathers that cover the whole body are of an exceedingly beautiful milk-white colour. The thighs, legs, and toes are about ten inches long, and are covered with large scales of a bluish-black colour. It has four toes, one behind and three before, the middlemost of which is nearly three inches long; the claws are black, and there is a small web between the two outermost toes. It feeds upon small fish, and frequents the sea marshes and salt pools.

Captain Wood observes that in the north-west parts of Greenland there is a sort of fowl which the natives catch with snares, chiefly for the sale of their skins and feathers, which, being thick, they dress and make garments of, like furs, wearing the feathers outward in the summer time, and inward in the winter. He says two or three of his men killed 1,500 of them in one day. From this account one would imagine snares would be as unnecessary here as in the bird island of America, mentioned by the Earl of Cumberland, who says there are such incredible numbers of birds found in it that there needs no artifice to take them, for a man may catch with his hands alone almost enough to serve a whole fleet.

The *Blue Gaulding* is from its bill to the end of the tail about eighteen or twenty inches, and from the extension of each wing about a yard. The part of the bill towards the head is of a bluish colour, and black towards the extremity; it is very sharp, and about two inches and a half long; it has a greenish skin about the eyes, and a tuft of thin, small, longish feathers upon the head; the neck is about six inches long, covered with thin feathers of a bluish-black colour, the whole body of the bird being nearly the same colour, except the breast, belly, and under the wings, which appear somewhat lighter.

The legs are covered with greenish scales, and are about seven or eight inches long; it has four toes, one behind and three before, the middlemost of which is about two inches long, and it has black, crooked, sharp claws.

They feed on shrimps, young crabs, spiders, and field crickets, and frequent ponds and watery places.

[This description tallies fairly well with that of the Night-Heron (*Ardea nycticorax*) a bird which, like the Great White Egret, has a very large range.—T. C.]

From Magazines, &c.

JOURNAL OF THE SOUTH AFRICAN ORNITHOLOGISTS' UNION, vol. i., No. 1 (Second Series), is a pretentious issue, rivalling in its general appearance its model, *The Ibis*. The Southern Union is to be congratulated upon its ability to publish such a first-class journal locally.

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WILD DUCKS POISONED.—Ararat.—Large numbers of Wild Ducks are being destroyed by farmers in the Dunkeld and Glenthompson districts by means of poisoned wheat. The birds have developed a taste for wheat, and settle on newly-sown fields in thousands. To save the crops poisoned wheat is being used to destroy the birds.—*The Argus*, 29/6/07.

* * *

POISON AGAIN!—Tunbridge.—Sportsmen generally complain of the scarcity of Wattle-Birds this season, and news has lately

come to hand of a great mortality among the Wild Ducks in the Lake district.—*Examiner* (Launceston), 17/7/07.

* * *

ADDITIONS TO THE AVIFAUNA OF THE COUNTY OF CUMBERLAND (N.S.W.)—In the “Records of the Australian Museum,” vol. vi., part 5, Mr. A. J. North, C.M.Z.S., publishes a list of 13 species of birds (additions chiefly due to climatic influence) supplementary to his previously published lists.

* * *

NORTH-WESTERN BIRDS.—According to *The Ibis* (April, 1907) Dr. Ernst Hartert has contributed supplementary notes in the *Novitates Zoological*, vol. xiii., p. 754, on *Ametrornis woodwardi*, *Collyriocincla woodwardi*, and *Gymnorhina tibicen longirostris*, the two former being figured. The birds were collected by Mr. Tunney and described as new by Dr. Hartert in the previous volume of *Nov. Zool.* (xii., p. 194).

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IN the *Examiner* (Launceston) of the 9th July there appears an interesting account of “An Ascent of Mount Roland,” by Mr. H. Stuart Dove, A.O.U. The account is chiefly descriptive, and his only bird note is:—“Upon the plateau (of the Mount) grew also stunted individuals of the evergreen bush, and amid these a party of Yellow-breasted Parrakeets (*Platycercus flaviventralis*) were calling ‘Too-sack ! too-sack !’ vociferously.”

* * *

Bulletin of the British Ornithologists' Club.—Volume xx. contains the report of the Migration Committee of the B.O.U. on the movements in England and Wales of a number of common migratory species during the spring and early summer of 1906. The amount of information this volume contains, especially interesting to bird-migration students, should be as widely read as possible. Mr. J. L. Bonhote, M.A., whose address is care of the Zoological Society, Hanover-square, London, W., is still the energetic secretary of the Migration Committee.

* * *

THE HABITS OF THE BIRDS-OF-PARADISE AND BOWER-BIRDS OF BRITISH NEW GUINEA.—Under this title *The Ibis* (July, 1907) contains a very popular article by Dr. Colin C. Simson. During November and December, 1905, Dr. Simson took an excursion through the uplands (3,000 to 6,000 feet above sea level) of the Owen-Stanley Range. He records having observed many species of the rarer Birds-of-Paradise, found several nests, and was fortunate in photographing the playground and garden of the Orange-crested Bower-Bird (*Amblyornis*). Photo-reproductions of the bower are given with Dr. Simson's article.

BIRD-LIFE IN THE NAGAMBIE DISTRICT (VICT.)—In *The Victorian Naturalist*, vol. xxiv., No. 4, Mr. C. F. Cole recounts the experiences of an enjoyable (barring mosquitoes) week's camp-out on the Goulburn, where he and his companion identified 67 species of birds. One note is of especial interest:—"One day (7th March), about noon, a large flock of beautiful Bee-eaters (*Merops ornatus*) made their appearance at the camp, apparently collecting after their breeding season preparatory to moving north, for next morning not a single bird was to be seen or heard."

* * *

A CONFIDING LYRE-BIRD.—A Walhalla correspondent writes:—"The contractors for the new south road rising on to the Moondarra Plateau from the Thomson River have a constant visitor to inspect their works—a full-grown male Lyre-Bird (*Menura victoriae*), which has become so tame that it hops up to the face to feed on the grubs and worms disturbed by the men working. On Friday morning last it paid no fewer than ten visits to the scene of operations, and the men guard their pet very jealously. Anyone interfering with it would receive a warm time at their hands. The bird whistles beautifully, sitting on the bank near, and seems to have no fear of his friends. He has several dancing-beds in the vicinity, and is a beautiful bird, with a tail about 2 feet or over in length. None of our bushmen has experienced one so tame, as they are usually very shy.—*The Argus*.

* * *

GOULDIAN FINCHES IN THE FIELD.—A bird-trapper's experience:—"On an average for every 100 Gouldians we take from the nets, 80 per cent. are black-heads, 15 per cent. red-head cocks, and only 5 per cent. red-head hens. It will be clearly seen that red-head hens are in the minority. Now, the ten red-head cocks have to find mates somewhere, and as there are so few red-head hens, they have nothing else to do but to pair up with the black-heads, and this is what they do. In pairing up in this manner it seems of little or no consequence whether it be a red-head cock and black-head hen or *vice versa*. We have seen many cases where they have been mixed—perhaps there have been two red-heads and three black-heads. We have many times caught the adults of the two varieties, together with their brood, and in most cases the young were of both kinds."—*Avicultural Magazine* (April, 1907).

* * *

SYNOECUS AUSTRALIS IN NEW ZEALAND.—Through *The Avicultural Magazine*, June, 1907, Mr. Robin Kemp, Umawera, Hokianga, N.Z., announces this very interesting discovery. The editor (Mr. D. Seth-Smith, F.I.S.) identified the species from a skin sent to him by Mr. Kemp. Mr. Kemp, who resides on the

North Island, states that "the species is not what one can call numerous here, but it is to be seen occasionally in pairs or quite small parties." It is known that the Brown or Swamp-Quail readily breeds in captivity in Australia. Have cage birds been taken to and liberated in New Zealand, or have wild birds emigrated across the Tasman Sea? Judging by the wide range the bird enjoys—from New Guinea to Tasmania—emigration has probably occurred. In any case the New Zealand Government would do well to rigidly protect the Quail (say for 10 years) till they are numerous enough to hold their own against shooters.

* * *

TASMANIAN FAUNA.—The letter of "Onlooker" in to-day's *Examiner* will awake a sympathetic echo in many breasts. Much has been done in other countries, much even in the other States of our Commonwealth, in the matter, by the reservation of large bush areas for the preservation of native animals, while in New Zealand the Government has, with far-sighted wisdom, set aside the magnificent tract of 600,000 acres as a national park and heritage to the people for ever. In this splendid range of mountain and forest, river and lake, the native fauna are strictly protected—no shooting or collecting allowed—and it is high time that our animals, which have an equal interest with those of New Zealand, should have a tract of bush country in which to roam without danger of gun or snare. We have species in this State which are found nowhere else in the world; surely it is our duty to see that measures are taken for their preservation ere it is too late.—H. STUART DOVE.—*Examiner* (Launceston), 16/7/07.

* * *

YELLOW-RUMPED FINCH.—"Within recent years, at least, few birds have caused quite such a sensation in the avicultural world as the Yellow-rumped Finch, the *Munia flaviprymnus* of Gould." Thus writes Mr. D. Seth-Smith, F.Z.S., in *The Avicultural Magazine* (May, 1907) regarding "The Yellow-rumped Finch and its Relationship to the Chestnut-breasted Finch (*M. castaneithorax*)."¹ Mr. Seth-Smith had several examples of the former bird under observation, one of which developed an abnormal phase of plumage. "The throat had darkened considerably, and there were distinct traces of a dark pectoral band," while in another example "the throat has darkened very considerably, the pectoral band has commenced to develop, and there is a dark spot on the flank." The birds were probably over two years old. Mr. Seth-Smith concludes the *M. flaviprymnus* in its sandy-coloured plumage "is merely a desert form of *M. castaneithorax*." Members of the A.O.U. should read Mr. Seth-Smith's article at length, which is accompanied by four clearly etched figures.

"THE BIRDS OF THE WEDDELL AND ADJACENT SEAS, ANTARCTIC OCEAN" is an article by Mr. Wm. Eagle Clarke in *The Ibis* (April, 1907) that will interest Australian readers. It is an instalment (the third) of the ornithological results of the voyage of the *Scotia* (Scottish National Antarctic Expedition), dealing with the bird-life observed in the Antarctic southward of the 60th parallel of south latitude. The following Australian sea-birds are mentioned at length:—*Oceanites oceanicus* (Yellow-webbed Storm-Petrel), *Priocella glacialisoides* (Silvery-grey Petrel), *Ossifraga gigantea* (Giant Petrel), *Daption capensis* (Cape Petrel), *Halobæna caerulea* (Blue Petrel), *Prion banksi* (Banks Dove-Petrel), *Diomedea exulans* (Wandering Albatross), and *Phæbetria cornicoides* (Sooty Albatross). The last-mentioned is especially interesting because a second Sooty Albatross was described as far back as 1867 by the late Capt. F. W. Hutton. The Hutton Sooty Albatross, Mr. Clarke is of opinion, should take "full specific rank." It is the common New Zealand form, and breeds at the Auckland and Antipodes Islands, also on Macquarie Island.*

* * *

EGGS OF *CACOMANTIS INSPERATUS*.—The eggs of the Brush Cuckoo of Gould's folio edition of "The Birds of Australia" were unusually common last season on the highlands of the Milson's Point railway line. Mr. A. A. Johnston took no less than seven eggs in as many nests of *Rhipidura albiscapa*. One nest 4 feet from the ground, that he had to lift the bird off, revealed no eggs of the Brush Cuckoo and one egg of *Rhipidura albiscapa*. This was on the 24th November, 1906. The nest of this pair of birds he took again on the 9th January, 1907, when it contained two eggs of the White-shafted Fantail and one egg of the Brush Cuckoo. On the 5th January, 1907, he took a nest of *Malurus lamberti* with two eggs, also an egg of the Brush Cuckoo, which is the first time I have known the egg of this Cuckoo to be found in the nest of this species. Four fresh eggs were taken from a nest of the same pair of birds on the 16th January, and two eggs of Lambert's Superb Warbler from the third nest of this pair of birds on the 29th January, 1907, also an egg of the Brush Cuckoo. On the 18th November, 1906, Mr. Johnston took a nest of *Myiagra rubecula*, containing two eggs of that species, also an egg of the Brush Cuckoo.—A. J. NORTH, *Records of the Australian Museum*, vol. vi., part 5.

* * *

BIRDS OF THE GULF OF CARPENTARIA REGION.—In *The Ibis* for July, 1907, Mr. Collingwood Ingram, F.Z.S., contributes an article of importance to Australians "On the Birds of the

* See Sooty Albatross, "Nests and Eggs Australian Birds," pp. 937, 938 (Campbell).—EDS.

Alexandra District, Northern Territory of South Australia." Alexandra is a station about 200 miles inland from the Gulf. In the year 1905, with commendable enterprise, Sir William Ingram (father of Mr. Collingwood Ingram) arranged that Mr. W. Stalker, an experienced naturalist, should visit the locality, with a view of making an extensive collection of its birds and mammals. The mammals were presented to the British Museum,* while a fine series of birds was handed over to Mr. Collingwood Ingram to work out. After giving Mr. Stalker's general description of the country—timber chiefly coolibar, gidgea, mulga, &c., in other parts white gum and bloodwood—Mr. Ingram enumerates 91 species, 5 of which he has separated as "distinct geographical races"—namely, *Artamus gracilis*, *A. florenciae*, *A. phœnus*, *Ptilotis forresti*, *Mirafra rufescens*. In reviewing the Alexandra collection as a whole Mr. Ingram was struck by the exceptionally pale and greyish colouration (due, no doubt, to the arid climate) of many of the forms, and its resemblance to the avifauna of North-West Australia. In addition to the above-mentioned new species, the following are recorded for the first time for the Northern Territory, namely:—*Petraca goodenovii*, *Rhipidura albiscapa*, and *Ephthianura aurifrons*. Regarding *Acanthochæra (Acanthogenys) rufigularis*, and *Entomophila rufigularis*, there seems to be some little confusion in Mr. Ingram's record about these two species. Does he wish it to be inferred that both were found at Alexandra?

* * *

LYRE-BIRDS.—Mr. A. H. Mitchell, of Queen's College, says:—"In Friday's issue of *The Argus* 'Pycnoptilus' incidentally makes a statement *re* the Lyre-Bird which I think is inaccurate, viz., 'The *Menura* is only known to frequent gullies where the hazel grows, as their food consists of certain grubs that live at the roots of this tree.'

" My observations of the Lyre-Bird extend over a wide area, including the district around Drouin, Warragul, Poowong, &c., Bruthen, Buchan, Lake Tyers, Orbost, the bulk of the Timbarra and Gelantipy districts, with the whole of Croajingolong and Omeo, Glen Wills, and surrounding country.

" I have not been able to associate the Lyre-Bird with any particular tree or scrub, the hazel least of all. In the above-mentioned areas, only in the South Gippsland portion (Poowong, &c.) does the hazel occur plentifully; in all the other parts it is rare, and sometimes absent. In 1904 I took an egg from a nest at an altitude of more than 5,000 feet, on the northern slope of Mount Wills, where the timber was almost wholly snow gum—certainly no hazel occurred there. On the lower slopes of the

* *Vide P.Z.S.*, 1906, p. 536.

mountain they had their feeding grounds, mostly in the scrub wattle.

"On the upper parts of Big River and Wild Horse Creek (heads of the Mitta Mitta, under the Bogong), I saw dozens of dancing birds, and acres of the ground were scarified by these birds in searching for food, and only at rarest intervals was the hazel seen, and then but very small and dwarfed specimens.

"Around Buchan and all over Croajingolong the same is true. I would very much like to know what their food consists of, and if any solutions are offered as to the reason why the Lyre-Bird has never been seen in the Otway forests, where the conditions are practically identical with all the southern and middle parts of Gippsland."—"Nature Notes," *The Argus*, 28/6/07.

* * *

AN IDEAL BIRD SANCTUARY.—During the past six weeks Dr. L. Cockayne, F.L.S., has been engaged in making a botanical survey of Stewart Island, N.Z. In the course of a conversation with a reporter, Dr. Cockayne dropped speaking of his botanical researches to talk of birds over the length and breadth of New Zealand. He said :—"Our unique birds are fast vanishing, and to the ordinary town dweller are virtually unknown, but on Stewart Island, in many parts, they are really as they were in the pre-European, and, for the matter of that, in the pre-Maori days. These birds are a national asset, just as much as are the scenery of New Zealand and its marvellous vegetation, and it seems to me that here is a chance for the colony to show that it is in earnest in its desire to protect its birds, and that the whole of Stewart Island should be made a sanctuary for bird life. This is not merely a matter of sentiment, but is also distinctly one of £ s. d. If it were known the world over that the birds of Stewart Island were sacred from the gun of the pot-hunter, and there could be seen a fauna which exists nowhere else on the face of the globe, and which could be seen freely by all who visited the island, then the tourist attractions of that spot, and of the colony, would be largely increased.

"All over the ranges south of Paterson's Inlet, the large Kiwi is as plentiful as it was on the West Coast of the South Island before misdirected energy turned loose the stoats and weasels. Over the shrubs and sedges of wet lands the Fern-Bird flits in great numbers. Everywhere one rests one is greeted by a friendly Maori-Hen, flocks of Godwits soar above the waters of the inlet, the lovely Pigeons can be seen high in the pine trees banqueting on the berries of the miro. The bushman's friend, the Robin, will almost feed out of one's hands. The Kaka is very plentiful, the Tui and the Moka-Moka fill the forest with melody, and a keen eye will discover an abundance of the smaller birds—the Rifleman, the Wren, and so on. On the shores sea-birds of

many kinds are excessively numerous. The Stewart Island Shag, with its beautiful white breast, can, in Stewart Island, be no enemy of the fisherman. One hears the Morepork at night, and to finish my by no means exhaustive list, the White Heron (Egret) is still said to be found in one spot, at any rate."—*N.Z. Herald*, 25/2/07.

* * *

THE CALL-BIRD.—Under this imaginative title a writer (W. H. Sherrie) contributes an article to *The Argus* of 1st June, 1907. He says, truly enough:—"There is nothing in what may be termed the instinctive phenomena of Nature that is more mysterious and startling to the imagination than the common enough habits of wild birds, and more especially those of the migratory order. The more one studies the habits of birds the more wonderful the perfectly natural seems. It is the nature, for instance, of the Nightingale to spend the greater part of the year in the jungle fastnesses of the Gold Coast country, and other regions unfamiliar to the majority of mankind; to visit certain parts of Europe in the spring for breeding purposes; and to arrive and depart with a regularity that is positively mechanical in its consistency." But there is a savour of uncertainty when it is stated that on "the same day of the same month of each year the advance guard of the Nightingale tribe may be looked for in England; and their legion of followers may be expected to come in more straggling order when the sanctuary for the season has been located by the scouts."

"There is much in common between the Nightingale and the Snipe families. They each have their 'call-bird,' which stands in the same relation to the order as the 'scout' does to the bee colony. The 'call-bird' of the Snipe makes its wonderful journey to Australia—probably all covering the 10,000 miles from Siberia in the course of two or three weeks—generally about the middle of our spring, and may continue right on to the interior of the continent before landing. There may be two or three or more of these birds. They seek flat, moist country, where there is swamp and grass and reeds and the conditions are specially adapted for their curious methods of feeding by suction. The strangest thing about the Snipe is the mysterious manner in which the 'call-birds' are followed by the rest of the family or not according to what has happened to the leaders. The average eager sportsman who goes forth with the object of achieving the inglorious distinction of securing 'the first Snipe of the season,' and having the marvellous feat duly recorded in the local newspaper, probably knows nothing of what is involved in the enterprise. The man who has studied the habits of the bird, no matter how eager he may be to shoot some of the spring visitors before his neighbours succeed, will always restrain his ardour in regard to the first few members of the family

seen. This is not because the naturalist in him is stronger than the sportsman; the reason is more sordid than that. Unless he is a tyro he knows that to kill the 'call-bird' is to destroy all prospect of further sport, so far as Snipe-shooting is concerned, for the year in that particular district. He knows—and this is one of the most marvellous of the natural instincts of the Snipe—that if he kills the 'call-bird' the family of which it is but the forerunner will not arrive that season."

The writer goes on to suggest that there must be some sort of telepathetic current between the single "call-birds" and the main flock. He is quite oblivious of the fact, indicated by the title of his dissertation, that the Snipe already arrived on the feeding grounds—Quail and Plover also behave similarly—call out in answer to the calls of other birds passing in the night, and so attract them to the spot. In the same way, when an outward migration is in progress, the calling of flocks passing overhead attracts other flocks *en route* to join in with them.

Review.

[“Nests and Eggs of Birds Found Breeding in Australia and Tasmania,” by Alfred J. North, C.M.Z.S., &c.]

THE Trustees of the Australian Museum have issued part ii. of volume ii. of this work. It is a continuation of the Order Passeres, and contains the greater portion of the large and important Family *Meliphagidae*, commenced towards the latter end of the preceding part, and the Families *Nectariniidae*, *Zosteropidae*, *Dicaeidae*, and *Pardalotidae*. The figures of eggs, which are of the natural size, were reproduced by the heliotype process at the Government Printing Office, from photographs of the specimens taken under the direction of the Government Printer, Mr. W. A. Gullick, and the supervision of Mr. A. E. Dyer. As in the previous parts, the illustrations of birds are reproduced from drawings made by the late Mr. Neville Cayley, who was also responsible for hand-colouring the plates of eggs in the coloured copies.

The get-up of this work in every branch continues its high-class excellence. The only thing regrettable is the persistent omission of important references. Some of these omissions, in justice to ornithological students, should be mentioned. Although an active member of the Field Naturalists' Club of Victoria since its inception, in dealing with the nest and eggs of the Helmeted Honey-eater (*Ptilotis cassidix*) Mr. North has overlooked the historical finding of the first authenticated nest and eggs of this fine species at the first "camp-out" of the Field Naturalists' Club, November, 1884. [See *Southern Science Record*, 1885; also *Proc. Aust. Science Ass.*, vii., p. 621, 1898.] The author of "Nests and Eggs" has also overlooked

the original description from first-hand data of the nest and eggs of the Wattle-cheeked Honey-eater (*Ptilotis cratitia*). [See *Victorian Naturalist*, xvi., p. 111, 1899.] He has likewise missed the species *Ptilotis carteri*, originally described before the Field Naturalists' Club, 13th March, 1899. Subsequently a coloured plate of *P. carteri* appeared in *The Emu*, vol. iii., pl. xvi., 1903-4. To this there is also no reference, nor is there to the critical remarks on the species by Mr. M. A. Milligan (*Emu*, vol. iv., p. 153). Further examples of "omissions" can be cited, but time and space forbid. It is to be regretted that a work which in future years must, from the source whence it emanates (the Australian Museum), be regarded as the embodiment of all knowledge of Australasian ornithology up to its date of publication, should be deficient in any way. As the book now appears the compiler neither does justice to himself as a thorough investigator in the branch of science in which he deals (which hardly anyone can doubt) nor to those whose published records at least deserve—if not reliable—to be confuted.

Correspondence.

SOME FIELDS OF RESEARCH.

To the Editors of "The Emu."

DEAR SIRS,—Ornithology embraces not only the study of the external structure and habits of birds, their nidification, &c., but also of everything that relates to them even remotely. In this connection may I call attention to some fields of research which as yet have been barely touched upon amongst us.

(1.) The internal anatomy of our native birds. Let every opportunity be taken by our field workers to study the bony skeleton, muscles, nerves, vessels, and viscera of all the specimens they secure. Make themselves first familiar with the arrangement of these structures in such common birds as Starlings and Sparrows, and then take careful notes of the differences that appear in other birds. Especial notice should be taken of individual abnormalities as distinct from specific ones.

(2.) The pathology of our birds. An absolutely untouched field lies open here. Every tumour or unusual growth, even those occurring in domestic birds, such as poultry, should be carefully and quickly preserved, say in 5 per cent. formalin, and accompanied by full notes. Any epidemic, especially amongst wild species, should be as far as possible investigated, and *post-mortem* examinations made. If an infectious disease, communications should be entered into with some interested bacteriologist, and cultures taken for bacteria. Plague, for instance, in some countries has been known to attack birds such as

Pheasants. Blood films, made by spreading a thin, even film of quite fresh blood on a microscope slide (a piece of glass about $2\frac{1}{2}$ inches by $\frac{3}{4}$ -inch—rubbing the smooth glassy surface first with very fine emery paper is a great help), should be taken whenever a bird is shot. There are doubtless many blood parasites present amongst our birds, especially tropical ones, which only await discovery.

(3.) All ticks, lice, intestinal worms, and other parasites should be preserved and forwarded to some authority for identification.

(4.) The contents of the crop, stomach, intestines, &c., should be carefully examined, and notes made of their nature. Insects, if possible, should be identified; seeds also collected, and planted if there seem a prospect of their growing. Burrs attached to the feathers should be identified, and the mud from wading birds collected and examined for the seeds of marsh plants, shell-fish, &c. Certain species of plants, as Darwin pointed out, may be transported over vast distances in this way.

I shall be delighted to be of service to anyone who desires to follow up some of these lines of investigation and requires fuller particulars. I am especially anxious to obtain specimens of tumours and diseased organs, blood films, ticks, and internal parasites, and, where I cannot identify specimens myself, will be happy to forward them into more capable hands.

May I conclude by earnestly calling attention to these various points for study, and expressing the hope that many of our ornithologists may interest themselves in them.—I am, yours, &c.,

J. BURTON CLELAND, M.D.

C/o Central Board of Health,
Perth, W.A., 16/6/07.

CROWS *v.* RAVENS.

To the Editors of "The Emu."

SIRS,—There seems to be an impression abroad in many quarters that the Crow (*Corone australis*, Gld.) is not found in Tasmania, but that all our birds are Ravens (*Corvus coronoides*, V. and H.) In Col. Legge's "List of Tasmanian Birds" both species are given, and the scientific names are as above. In Hall's "Key" the names are reversed, *Corone australis* being called the Raven and *Corvus coronoides* the Crow, the main difference given being in the bases of the neck and body feathers, which in "*coronoides*" are said to be snow-white and in "*australis*" dusky brown or black. Recently I have examined five or six specimens from this district (some in the presence of Mr. H. C.

Thompson), and all had the snow-white bases to the feathers. Which were they, Ravens or Crows? Has any Tasmanian specimen been found with the dark feather bases? It would be interesting to have this point cleared up, and also to hear from other members whether the feather test has been found uniformly reliable.—I am, &c.,

H. STUART DOVE.

Launceston, 16/7/07.

Obituary Notice.

PROFESSOR ALFRED NEWTON, M.A., F.R.S., ETC.

ALL bird-lovers will deeply regret the death of Professor Alfred Newton, F.R.S., especially many Australian students, who from time to time received his kind encouragement and sound advice in the field of ornithology. Although an Honorary Member of the A.O.U., out of sympathy with the Australian workers he forwarded the ordinary subscription since the Union's inception. His last literary contribution, which appeared in *The Emu*, was in the form of a letter to Mr. Ernest Scott on the subject of Dampier's "Galdens."* To do justice to the life and labour of so great an ornithologist as the late Professor would need a very able pen and a vast amount of research, therefore the editors take the liberty of giving Mr. H. E. Dresser's (a member, by the way, of the A.O.U.) sympathetic remarks as they appeared in *The Zoolologist*, 15th July, 1907:—

"Zoologists in general, but especially ornithologists and oologists, will deplore the loss of Professor Alfred Newton, one of our most distinguished and soundest zoologists, who passed away on the 7th of June. Professor Newton, who held the Chair of Zoology and Comparative Anatomy at Cambridge since 1866, was well known and most highly esteemed, not only in Great Britain, but in every country where zoology, and more especially ornithology, is studied, and his writings, though many, were not so voluminous as they might well have been, for he never put pen to paper until he had fully studied his subject, and in consequence nothing that he wrote will pass away, but will stand as a lasting memorial of the care and hard work he bestowed on all that he undertook. Extreme accuracy was with him the cornerstone of all his work, and he would spend weeks of labour and earnest research in verifying any reference. It is scarcely necessary here to enumerate all the works he has written, but amongst these I may especially name his 'Dictionary of Birds,' written with the co-operation of Messrs. Hans Gadow, Richard Lydekker, Charles S. Ray, and Robert W. Shufeldt, a work which is

* Vol. vi., p. 151—a subject continued in the present issue (p. 101) by a letter from Mr. Tom Carter.—EDS.

indispensable to every working ornithologist; vols. i. and ii. of Yarrell's 'British Birds'; his 'Ootheca Wolleyana,' a catalogue of the celebrated collection of eggs originally formed by the late John Wolley, and completed by Professor Newton himself, which, though commenced as long ago as 1866, was only completed shortly before his death; and his various papers on the Great Auk or Garefowl.

"As one of the founders—probably the chief of the small band of ornithologists who founded, nearly fifty years ago, the British Ornithologists' Union—Professor Newton and his coadjutors gave an impetus to the study of ornithology which has had most gratifying and lasting results.

"A severe though a very fair critic, and a hard hitter when he deemed it necessary to administer salutary correction, Professor Newton was a firm friend, most courteous, genial, and pleasant in manner in personal intercourse, and especially kind and helpful towards young ornithologists; therefore he was greatly loved and revered by all who came in personal contact with him. It was a constant custom with him to be at home on Sunday evenings to young students of zoology, and all who have taken part in these pleasant reunions will know how helpful he invariably was to any young man who was working at any branch of zoology. In this, as in his influence on the study of ornithology, he will be sorely missed, and there is no one who can take his place.

"Although permanently lame, owing to an accident in early childhood, he did good work as an out-door naturalist, and travelled considerably, visiting Norway, Lapland, Spitzbergen, Iceland, the West Indies, and North America, making excellent use, as his writings show, of his opportunities to study the habits of birds in their native haunts.

"A keen oologist, Professor Newton amassed a very good collection of eggs, almost entirely of Palæarctic species, and of some, chiefly northern, a very large series—and this valuable collection he has bequeathed to the Cambridge University Museum. His chief hobby was, however, his library of ornithological and zoological books, and whenever a rare ornithological work was in the market he would use every endeavour to secure it, usually with success. Hence this library, which he has also bequeathed to the Cambridge University, is extremely rich, and contains several of the rarest and most valuable ornithological and oological works.

"Though very broad-minded, Professor Newton was somewhat conservative, and to the last he was strongly averse to the extreme subdivision of species, often on the very slightest grounds, now so prevalent amongst some ornithologists of the present day, as also to the use (or, we may almost say, abuse) of trinomial appellations, he being essentially a binomialist.

"Professor Newton was the fifth son of William Newton, of Elvedon Hall, Suffolk, formerly M.P. for Ipswich, and was born at Geneva on the 11th of June, 1829. Educated at first by a private tutor, he graduated at Cambridge in 1853, and was appointed Travelling Fellow of Magdalene College in 1854, and then visited the countries above enumerated. He was subsequently a vice-president of the Royal, Linnean, and Zoological Societies, and was awarded the gold medal of the Linnean Society, and in 1900 one of the Royal Society's medals.

"I first made Professor Newton's acquaintance in 1858, on my return to England from Finland, when he came to my father's town house to examine the collection I had made during my sojourn in Sweden and Finland, and since then he has been the most constant and truest friend it has been my good fortune to possess."

Bird Observers' Club.

THE ordinary monthly meeting of the Club was held at Oxford Chambers, Bourke-street, Melbourne, on 17th April, 1907. Mr. James Thompson was host and chairman for the evening. An interesting paper by Mr. J. Batey, of Drouin, on "The Wedge-tailed Eagle," was attentively listened to by members, from which many interesting notes were obtained and discussed. A field note from Mr. G. E. Shepherd, of Somerville, on the Black-checked Falcon chasing a Pigeon was also interesting. (See *Emu*, vol. vii., p. 41.) Mr. Christian, Kamarooka estate, Vic., contributed some notes, and mentioned that although he had only been in the district a few weeks he had listed over a hundred species of birds. Mr. A. G. Campbell showed a variety of skins, including those of the Whistling Eagle, Little Eagle, Brown Hawk, Black, Grey, Black-cheeked, and Little Falcons, Black-shouldered Kite, Goshawk, and Sparrow-Hawk. Mr. J. A. Ross exhibited two mounted specimens—Nankeen Kestrel and Black-cheeked Falcon—the latter a very handsome male in splendid plumage. The hon. secretary showed an instructive series of eggs of various birds of prey. Mr. Mattingley's exhibits were two varieties of a so-called snake—Frazer's delma—and he explained that many of the birds under review were partial to them as food. After the nature notes were discussed, Mr. C. L. Barrett drew attention to the wholesale destruction of the Black Swan on the Gippsland Lakes and elsewhere, and moved that the hon. secretary write to the Inspector of Fisheries requesting that it be better protected.

The June monthly meeting of the Bird Observers' Club was held at the residence of Mr. A. J. Campbell, Armadale. Among the exhibits was a fine series of New Zealand bush scenes, photographed by Mr. J. C. M'Lean, depicting haunts of endemic birds, some of which are fast disappearing. A unique picture by Mr. A. H. E. Mattingley was also shown—a brooding Egret (*Mesophoyx plumifera*) on its nest, photographed in the tree-tops at close quarters. The fine herony where the picture was taken was afterwards devastated by plume-hunters for ladies' hats, the breeding season notwithstanding. (See this issue, p. 65.)

The subject for the evening being "Magpies," Mr. Isaac Batey, Drouin, contributed a written statement roughly covering observations extending over a period of 60 years. Members applauded Mr. Batey's remarks when, as a practical farmer, he defended the Magpie (*Gymnorhina*) as a bird undoubtedly beneficial to mankind, although he admitted it took grain

occasionally, when sorely pressed for food, in bad seasons. Some of Mr. Batey's remarks proved that in domestic matters Magpies resembled the genus *Homo*. Some pairs had no children. Some families were exclusive, while among others there were petty jealousies, quarrels, and even stand-up fights. Mr. Robert Hall, F.L.S., Dr. Geo. Horne, and others also discussed the subject. The combined material displayed consisted of a scientific collection of Magpie skins and eggs from different parts of the Commonwealth, including a nest curiously constructed of fencing wire exhibited by Miss Bowie.

The quarterly dinner was held at the Mia-Mia Tea Rooms on the 21st August, 1907, when fourteen members were present. After the adjournment Dr. H. W. Bryant took the chair, and drew the attention of members to the presence of two visitors (Mr. A. G. Hamilton, and his son, Mr. C. G. Hamilton), both keen bird observers. The subject for discussion was "Parrots." Mr. Isaac Batey contributed a paper entitled "Parrots on Old Man Plain," which proved extremely interesting, and much valuable information was obtained therefrom. Two new members (Messrs. Chandler and Cole) were elected. Mr. J. A. Leach, M.Sc., mentioned that the members could use space in *The School Gazette* for nature notes, and it was resolved that a committee, consisting of Messrs. R. Hall, Mattingley, and the hon. secretary contribute an article of from 200 to 400 words monthly, dealing especially with migration. Much valuable information should be learned in this way, as it was explained by Mr. Leach that the *Gazette* went into upwards of 2,000 schools. Messrs. Hamilton, of Sydney and Perth respectively, promised to initiate the movement in their respective States.

South Australian Ornithological Association.

THE bi-monthly meeting was held on 2nd May. Dr. Morgan presided over a good attendance. Useful notes upon birds found at the Reedbeds this season were given by Capt. S. A. White. Dr. Angove described the habits of the Scrub-Robin (*Drymaeetus brunneopygia*) and its nesting habits. Mr. E. Ashby noted the appearance of the Osprey (*Pandion leucocephalus*) on the Sturt Creek, near Blackwood. Mr. J. W. Mellor gave notes of several useful birds seen at North Adelaide. Dr. Morgan displayed a collection of native birds' eggs. Capt. S. A. White exhibited birds from Tasmania, among them the Fan-tailed Cuckoo (*Cacomantis flabelliformis*), Satin Flycatcher (*Myiagra nitida*), Allied Diamond-Bird (*Pardalotus affinis*), Strong-billed Honey-eater (*Melithreptus validirostris*). Mr. E. Ashby showed birds from the Mannum district, including the Scrub-Robin (*Drymaeetus brunneopygia*), Yellow-plumed Honey-eater (*Ptilotis ornata*), and the Red-rumped Ground-Wren (*Hylacola cauta*). Mr. J. W. Mellor displayed the rare eggs of the Adelia Penguin, taken at Cape Adare, in Victoria Land, by the British Antarctic Expedition in 1898. Interesting notes were given by Mr. J. W. Mellor upon the trip of the members of the Australasian Association for the Advancement of Science to Kangaroo Island and the islands of Spencer Gulf. Numerous sea and land birds were identified, and their breeding haunts visited and described. Mr. Mellor showed a number of stuffed specimens in illustration of his remarks, among them the White-breasted Cormorant (*Phalacrocorix gouldi*) and its eggs from Spencer Gulf; the Spotted Scrub-Wren (*Sericornis maculata*), the Yellow-rumped Diamond-Bird (*Pardalotus xanthopygius*), and two Thick-heads of the *Pachycephala* family, from Memory Cove; the Tree-Tit (*Smicrornis brevirostris*) from Port Lincoln, the Rock Parrot (*Neophema petrophila*) from Sir Joseph Banks Group, and other species from Kangaroo Island; also, the eggs of the Mutton-Bird (*Puffinus tenuirostris*) from the

South Neptune Island, and a series of the eggs of the Crested Tern (*Sterna bergii*), showing the variations in colouration and markings. The nesting haunts of these birds were fully described.

A special meeting of this association was held at Dr. A. M. Morgan's on 6th June. Dr. Morgan presided over a large attendance. Mr. E. L. Angove was elected a member. Interesting notes were received from Mr. E. Ashby upon the breeding of the Lyre-Bird (*Menura superba*), being personal observations taken recently while at Cowra Creek, in the Macannally Ranges, N.S.W. (published in this issue, p. 94). Mr. J. W. Mellor showed a specimen of the Black-winged Crow-Shrike (*Strepera melanoptera*), from Kangaroo Island, and gave evidence of this bird being extremely useful in destroying insects of an injurious nature, although the bird has been condemned for eating fruit. Dr. Angove exhibited a skin of a Bush-Lark (*Mirafra*), of an unusually ruddy colour, the Grass-Wren (*Amytis striata*), and a number of oological specimens from the MacDonnell Ranges, Central Australia. Dr. A. M. Morgan displayed various species of Australian birds' eggs, which were of great assistance in identifying other eggs exhibited. Notes upon Western Australian birds were read by Mr. A. H. C. Zietz, F.L.S., who illustrated his remarks by a number of specimens of rare and interesting forms of avifauna peculiar to the western portion of the continent. Among these were the White-bellied Shrike-Tit (*Falculunculus leucogaster*), Western Reed-Warbler (*Acrocephalus longirostris*), Red-capped Parrakeet (*Purpureicephalus spurius*), Western Thickhead (*Pachycphala occidentalis*), Western Scarlet-breasted Robin (*Petraea campbelli*), Red-winged Wren (*Malurus elegans*), and the rare Desert-Bird (*Eremiornis carteri*). Mr. Zietz also showed a number of birds from other parts of Australia to compare with the Western forms of the same families. Mr. J. W. Mellor drew attention to several species of birds found abundantly at the Reedbeds this season, notably the Grallina or Magpie-Lark, of which hundreds had lately come about, and the Brown-headed Honey-eater (*Melithreptus brevirostris*).

Notes and Notices.

MR. H. L. WHITE, A.O.U., Belltrees, Scone, New South Wales, desires to purchase certain rare Australian birds' eggs. None but well-authenticated full clutches will be considered. Reference : Mr. A. Mattingley, hon. secretary A.O.U.

PLATYCERCUS XANTHOGENYS A GOOD SPECIES.—When Salvadori described this species it was from a single specimen in the British Museum, with habitat unknown. In the Tring Museum there are now several specimens from Beaufort and Cranbrook, Western Australia.

MR. W. E. TESCHEMAKER, of the Avicultural Society, has been awarded the Society's medal for successfully rearing young of the Yellow-rumped Finch (*Munia flavigrymnna*) for the first time in the United Kingdom. This rare species is still little known to Australians. The more credit to Mr. Teschemaker.

DESTROYING SWAN-EGGS.—Portland, Monday.—At the police court on Saturday three lads named Frederick Hardy and Sydney and Henry Fendoloff, were fined 6s. each for

destroying six Swan-eggs. The case was brought under the *Game Protection Act*.—*Age*, 27/8/07.

CLEVELAND (TASMANIA) MIGRATION NOTES.—24th August.—Pallid Cuckoo (*Cuculus pallidus*) first heard. 29th.—First Swallow (*Hirundo neoxena*) seen. 30th.—The Cuckoo-Shrike (*Grauculus parvirostris*) has returned to these higher levels, and was heard for the first time to-day.—(MISS) J. A. FLETCHER. 1/9/07.

THE WHITE COCKATOO (*Cacatua galerita*).—There is an interesting article in *The Field*, 16th March, 1907, on "Catching Sulphur-crested Cockatoos." Touching the birds as talkers, the writer states he once heard a Cockatoo say—"One, two, three, four, five, six, eight; d—n it, I've forgotton the seven again!" Could it have been our Australian bird?

"I BELIEVE that the utmost estimate of the number of bird-skins and eggs in it (British Museum) the year 1872, when I took office, would be 30,000, or 35,000 at the most. At the present moment the series is more than 400,000 in number, of which the eggs alone are nearly 100,000!"—DR. R. BOWDLER SHARPE (*The History of the Collections contained in the Natural History Department of the British Museum*).

REFERENCE NOTE HELD OVER.—*New Birds for Australia*.—Mr. De Vis writes on *Gerygone flavida*, Ramsay, which he thinks has been incorrectly assigned in the "Catalogue of Birds" (iv., p. 330) to *G. personata*, Gould. He also describes as new *Sericornis tyrannula* and *Acanthiza modesta*, from Charleville (Broadbent), and *A. katherina* and *Pachycephala mestoni*, from the Bellenden-Ker Range, Queensland.—*The Ibis*, July, 1906.

WANTED.—I am collecting data re arrival of Swallows (*Hirundo neoxena*) and particulars as to the way they spread when they do get here. I shall be glad of learning from Victoria, or any other place, when and where these birds leave the mainland for Tasmania. I am making a chart and have two years' information, but it is all local, and if I could learn of the points where the Swallows leave to cross the Strait I should be greatly assisted. The matter will be forwarded to *The Emu*.—E. A. ELLIOTT. High-street, Hobart, 6/8/07.

EXCHANGE OF OOLOGICAL COLLECTIONS.—Mr. G. A. Keartland, Melbourne, has disposed of his unique collection of Australian birds' eggs, which has been sent to Britain. Mr. S. W. Jackson, Sydney, has also parted with the results of his life-long hobby. His collection, however, remains in his native State. While congratulating the respective new possessors of these splendid collections, it is to be much regretted that the

cabinets were not acquired for the National collections when it became necessary for the original owners to part with them.

GREAT BROWN KINGFISHER (*Dacelo gigas*) IN TASMANIA.—Miss J. A. Fletcher, Cleveland, Tasmania, writes:—"It is with feelings of greatest pleasure that I record that several pairs of the above birds are quite at home in this district, and are evidently the progeny of a pair that was liberated at Belle Vue (the home of the late Mr. Gibson). I first heard their hearty laugh one evening last February, but, as it seemed some distance off, I wondered if my ears had deceived me. However, since then eyesight has proved the existence of the birds. One pair evidently have their quarters between here and Conara, 3 miles to the south."

NEW PUBLICATIONS.—*British Birds*, edited by Messrs. H. F. Witherby, F.L.S., and W. P. Pycroft, A.L.S., is a new popular monthly magazine devoted to the study of the birds on the British list. It is well illustrated. All students and bird-lovers are invited to support the magazine, which is not a commercial venture, by becoming annual subscribers. The subscription, which is 10s. 6d. (post free), should be made payable to Messrs. Witherby and Co., 326 High Holborn, London.

Sketches of South African Bird-Life, by Messrs. Alwin Haagner, F.Z.S., and Robt. H. Ivy. Illustrated by the camera. Subscription, 15s., payable to Mr. R. H. Porter, 7 Princes-street, Cavendish-square, London, W.

Notes on the Birds of Kent, by Rev. C. W. Shepherd, M.A., F.Z.S., and Messrs. R. J. Balston, F.Z.S., and E. Bartlett, F.Z.S. The subscription (16s.) may be forwarded to Mr. R. H. Porter, 7 Princes-street, Cavendish-square, London, W.

TRAFFIC IN MUTTON-BIRDS.—A boat accident occurred in the eastern passage of Welshpool Bay between 11 and 12 a.m. on Sunday, 21st of April. Mr. C. Martin and Mr. J. Carew were returning to San Remo from Cape Woolamai in Messrs. Bergin and Co.'s 14-foot sailing boat with a load of 600 Mutton-Birds (*Puffinus tenuirostris*). The weather being threatening, Mr. Radford, in a much larger craft, also laden with Mutton-Birds, undertook to tow the smaller boat. A violent storm coming on, the larger boat dragged the smaller one under water, and the rope parted. An attempt to fix the line again having failed, the two boats parted company, and the smaller one was left drifting gunwale awash. Four days afterwards Messrs. Bergin and Co. were lucky enough to recover their boat near the mouth of the Bass River, where she was fast in the sand under the mangroves. Had she not stuck in the sand she would have gone out to sea with the returning tide. The boat is uninjured, but Mr. Martin has lost his cargo of Mutton-Birds.—*Loch and Poorwong Express*, 1.5.07.

Australasian Ornithologists' Union.

SYDNEY SESSION.

THIS meeting will be held about the beginning of November, due notice of which will be forwarded to members. Mr. D. Le Souëf, C.M.Z.S., &c., Director of the Zoological Gardens, Melbourne, will be the president-elect. The usual popular lantern-lecture will be given by the hon. secretary, Mr. A. H. E. Mattingley. It will be somewhat of the sensational order—murder of Herons by vandals for their plumes, during breeding season, in Riverina; graphic pictures of starving Egrets, &c. It is proposed to hold, after the session, a working camp-outing in the rich region of the Tuggerah Lakes.



Colonel-Surgeon C. S. Ryan, P.M.O., Victoria
(Third President of the Australasian Ornithologists' Union).

The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. VII.]

1ST JANUARY, 1908.

[PART 3.

Australasian Ornithologists' Union.

SEVENTH (SYDNEY) SESSION.

ON Saturday, the 26th October, 1907, several ornithologists from South Australia and elsewhere arrived in Melbourne, and were met by some Victorian members of the A.O.U., and the united party journeyed together to Sydney by the afternoon express.

On arrival next morning at Sydney, the visiting members were met and welcomed by representative New South Wales members of the Union. Manly, a picturesque suburb of Sydney, was visited during the afternoon, and a trip was taken to the weekend residence of Mr. A. F. Basset Hull, named Banksia Camp, at Freshwater. It was noticed that Mr. Hull has thoughtfully preserved the native flora surrounding his house, and many sweet-voiced birds, principally Honey-eaters, were observed skimming over the trunks of the gnarled banksias in the search for insect life, or were seen flitting from flower to flower, ravishing first one then the other for the nectar contained therein. Owing to the freedom from molestation in this sanctuary, birds naturally shy had become so confiding that they had nested within a few feet of the back door. Under the guidance of Mr. Hull and Mr. C. Coles, visiting members were privileged to make a short excursion through the surrounding country, which was of a rocky formation, clothed with stunted banksias, eucalypts, and many varieties of flowering shrubs, interspersed with the peculiar flannel flowers. Cursory observations were made of the avifauna of this part, which is the home of the *Hylacola*, *Origma*, and several Honey-eaters, and other birds. On return to Mr. Hull's home the company were entertained by Messrs. Hull and C. Coles, and the former's collection was examined.

Next day (Monday, 28th October) excursions were made in the morning to different parts of Sydney Harbour, and the picturesque scenery was greatly admired. In the afternoon a visit was paid to the Zoological Gardens. A specimen of an albino Emu was critically examined, and it was considered that the occurrence of albinism in the *Dromæus* was rarely met with.

Business.—In the evening the first general business meeting of the session was held in the Royal Society's rooms, at 7 p.m. There were present Messrs. C. Coles, E. Lane, C. L. Barrett, E. Brooke Nicholls, Captain S. A. White, A. F. Basset Hull, H. H. Griffith, J. W. Mellor, P. Mellor, J. F. Mellor, S. M'Intosh, W. H. Selway, A. Mattingley, Mrs. J. F. Mellor, Miss Allen, Miss B. Mellor, Miss W. Mellor, Miss Mack, Mrs. S. A. White, and Miss M. Mattingley.

On the motion of Mr. E. Lane, seconded by Mr. C. Coles, Mr. J. W. Mellor (one of the vice-presidents) was elected chairman.

The minutes of the sixth annual (Hobart) session were read, confirmed, and signed, on the motion of Captain White, seconded by Mr. A. F. Basset Hull.

The annual report of the hon. secretary was then read, and it was adopted, on the motion of Mr. C. L. Barrett, seconded by Mr. H. Griffith.

The hon. treasurer's report and balance-sheet followed, read by Mr. A. F. Basset Hull, in the absence of the hon. treasurer. The financial statement showed that the Union financially was in a prosperous condition. Mr. A. F. Basset Hull moved its adoption, which was seconded by Mr. J. F. Mellor and carried.

Correspondence.—Their Royal Highnesses the Prince and Princess of Wales wrote accepting vol. vi. of *The Emu* journal, which the Council had forwarded to their Royal Highnesses as co-patrons of the Union.

Several letters of apology were read from members on account of their unavoidable absence from the session.

New Members.—On the motion of Captain S. A. White, seconded by A. H. E. Mattingley, the following members were unanimously elected:—New South Wales—A. J. Campbell, L. G. Brett, Thos. P. Austin, W. M'Lennan, W. Coleman, S. W. Jackson, H. Keene. Victoria—R. V. Dennis, L. C. Cook, J. Greenway, D. Deasey, C. G. Hamilton, W. E. Molesworth. Queensland—J. Scotney. South Australia—H. H. D. Griffith, C. H. Curnow. Tasmania—H. Stuart Dove, P. Lockwood. New Zealand—G. F. Hill.

Election of Office-bearers.—Mr. C. Coles moved and Mr. E. Brooke Nicholls seconded the motion that the following office-bearers be elected:—President, Mr. D. Le Souëf, C.M.Z.S., &c. ; vice-presidents, Mr. J. W. Mellor, Mr. A. J. Campbell, Col. Mem. B.O.U. ; hon. treasurer, Mr. J. A. Ross ; hon. editors, Mr. C. F. Belcher, M.A., LL.B., Mr. A. G. Campbell ; hon. secretary, Mr. A. H. E. Mattingley ; members of Council—Mr. L. Harrison (New South Wales), Mr. A. L. Butler (Tasmania), Mr. E. Stead (New Zealand), Mr. W. M'Ilwraith (Queensland), Mr. B. H. Woodward, F.G.S., C.M.Z.S. (Western Australia), Surgeon-Col. C. S. Ryan (Victoria) ; hon. press correspondent, Mr. C. L. Barrett (Victoria).

The hon. secretary explained that he accepted the post provisionally until someone else could be found to carry on the office. He had worked laboriously for the last 7 years in the interests of the A.O.U., and now desired a respite to enable him to indulge in study and literary work, which he had perforce been unable to attend to owing to the inroads into his spare time arising from the quantity of work to be transacted for the Union.

Vice-Presidential Address.—In the absence of the president, Mr. D. Le Souëf, C.M.Z.S., who was unable to be present owing to his attendance as a delegate of the Union at the Seventh International Zoological Congress (U.S.A.), the vice-president, Mr. A. J. Campbell, had prepared an address dealing with the history of bird protection in Europe, which was read by the chairman. The genesis of bird protection was lucidly outlined, and the necessity of a model Bird Protection Bill was emphasised. The paper terminated with the suggestion that a conference of inter-State delegates should be held next year during the annual session of the A.O.U. in Melbourne to consider a model bill for the protection of Australasian avifauna.

Papers.—Mr. A. H. E. Mattingley contributed a paper on the Herodiones of Australia, illustrated with unique photographs depicting the destruction of Plumed Egrets by those vandals, the plume-hunters. It was pointed out that the protection of Egrets was not sought for on entirely sentimental grounds, but the solid worth of these birds when computed in £ s. d. demanded an intelligent investigation of the value these feathered friends are to the community, and how deeply they are wrapped up with our domestic economy. The Egrets and Herons devour large numbers of land snails, which are the intermediate host of the liver fluke, a parasite that is so harmful to sheep. The depredations of these obnoxious parasites cause untold losses to squatters and pastoralists, owing to the demise of the sheep and the deterioration of their wool. If the statistics of the losses so caused were compiled it would probably total several million pounds sterling, when computed with the losses caused by the land-boring crustaceæ and the ravages of grasshoppers. It was pointed out that the Egrets and Herons "police" the irrigation channels and destroy the earth-boring yabbies that cause so much waste of water. The White-fronted Heron annually destroys myriads of grasshoppers, thereby saving the grass for the stock.

Mr. Robert Hall, F.L.S., C.M.Z.S., contributed a series of useful and instructive notes on a collection of bird-skins from North-West Australia, principally from the country about the Townsend, Kightly, Stewart, and Robinson Rivers, and the Obogama district. The collection was made by Mr. J. P. Rogers, A.O.U.

STATEMENT OF RECEIPTS
For Year ending

£ s. d.	£ s. d.	RECEIPTS.
	27 12 4	Balance brought forward—General Fund
37 7 10	9 15 6	Col. Figure Fund
	23 5 0	Subscriptions—Arrears
	78 15 0	Year ending June, 1907
	15 15 0	" 1908
119 5 0	0 15 0	" " 1909
	0 15 0	" " 1910
	2 0 0	Col. Figure Fund—Donations
	3 0 0	Advertising in the <i>Emu</i>
5 0 0		Sales of the <i>Emu</i> , Covers, and Postage
8 10 0		Launceston Lecture
2 14 6		Exchange
0 8 8		
<u>173 6 0</u>		

BALANCE
Year ending

£ s. d.	£ s. d.	ASSETS.
130 0 0		The <i>Emu</i> in stock (exclusive of 120 supplements to vol. v., part 2)—1,300 parts at 2s. each
11 10 0		Library (estimate)
6 0 0		Illustration Blocks (estimate)
42 0 0	14 15 6	Arrears of Subscriptions (estimate good)
	28 0 9	Cash in Bank—Coloured Figure Fund
42 16 3		General Fund
<u>232 6 3</u>		

AND EXPENDITURE

30th June, 1907.

	EXPENDITURE.	£	s.	d.	£	s.	d.
The <i>Emu</i> —Printing, &c.	..	89	2	9			
Illustration Blocks	..	10	11	3			
Photographic Prints	..	2	2	6			
					101	16	6
Postage	12	15	10
Stationery and General Printing	8	6	6
Book—"Check List of N. American Birds" (Library)		0	11	0
Fire Insurance	0	5	5
Launceston Lecture	4	4	3
<i>Emu</i> Covers	1	0	9
Exchange	0	17	0
Bank Charges and Cheque Book	0	12	6
Balance in Bank—General Fund	..	28	0	9			
Coloured Figure Fund	..	14	15	6			
					42	16	3
					£173	6	0

Audited and found correct.

LAUNCELOT HARRISON, } Auditors.
A. F. BASSET HULL, }

SHEET.

30th June, 1907.

LIABILITIES.

	LIABILITIES.	£	s.	d.
Subscriptions paid in advance
Balance
		17	5	0
		215	1	3
		£232	6	3

30th June, 1907.

J. A. ROSS, Hon. Treasurer.

Col. W. V. Legge, F.Z.S., F.R.A.S. (Ceylon), gave a paper entitled "Some Notes on the Location of Birds in the Vicinity of Homesteads, Break-o'-day District, Tasmania," the observations recorded being of value and assistance to working ornithologists.

Next Annual Session.—It was unanimously decided to hold the next annual session in Melbourne, on the motion of Mr. A. H. E. Mattingley, seconded by Captain S. A. White.

Alteration of Rule.—On the motion of Mr. A. H. E. Mattingley, seconded by Mr. E. Lane, rule 4 was altered to read as follows:—"The business of the society shall be conducted by a Council consisting of a president, two vice-presidents, secretary, treasurer, librarian, editors of *The Emu*, and six members," &c.

General.—Mr. L. Harrison exhibited an interesting clutch of the eggs of the White-shafted Fantail (*Rhipidura albiscapa*) containing an egg of the Pallid Cuckoo (*Cuculus pallidus*); also some abnormally small eggs of the Emu (*Dromæus novæ-hollandiæ*).

A flashlight photograph having been taken, and a vote of thanks passed to the chairman, the meeting adjourned for the excursion *via* Brisbane, Queensland.

Next day a visit was paid to the Australian Museum, where members were met and welcomed by the Curator, Mr. R. Etheridge, jun., F.G.S. The general collection of birds was examined under the Curator's personal guidance, and the type specimens of birds and eggs were kindly placed at the disposal of members for inspection.

In the afternoon members proceeded by the northern express to Brisbane, *en route* to Tumbulgum, a small township situate on the Tweed River, N.S.W., for the "working" field excursion. A fortnight of useful study was spent in the rich sub-tropical growths of that region, and many field notes of interest taken, which will be subsequently published in *The Emu*.

Vice-Presidential Address.

THE following address by Mr. A. J. Campbell, Col. Mem. B.O.U., was read:—

Introduction.

Ladies and Gentlemen,—Owing to the unavoidable absence of our esteemed president (Mr. D. Le Souëf, C.M.Z.S., &c.), who is at present travelling abroad in the best interests of the Zoological Society, Melbourne, I have been deputed by the Council of the Australasian Ornithologists' Union to prepare the customary annual address.

Following the excellent example of our retiring President (Surgeon-Colonel C. S. Ryan, P.M.O., Victoria, whose admirable

address last year on the bird protection in America, with practical suggestions for Australians, has been widely read and approved), I have ventured to take as the basis of my remarks the subject of "Bird Protection in the Old World."

*Historical Sketch of the International Protection of Birds in Europe.**

From time immemorial the Germans have been fowlers; indeed, one of their monarchs (Emperor Frederick II., 1194-1200) has been designated the "Crowned Fowler."

This national traditional inheritance may be also seen respectively in the bird-protecting decrees of Lippe-Detmold (1777), Saxe-Coburg (1809), and of the Grand Duke of Hesse (1837). The last forbade the slaughter and sale of certain birds useful to agriculture, and provided for the protection of their nests and eggs. But the first to treat the bird protection question on a scientific basis was Pastor Edward Baldamus, an ornithologist, contemporary and friend of the celebrated Naumann, who, in 1845, at the first meeting of the German Ornithological Society, at Köthen, presented a scheme for protection which the historian states was "severely ignored." The following year Baldamus laid his scheme before the committee of the Saxon Economic Society. It was again "shelved." Ten years later (1856) Baldamus reopened his scheme before the second General Assembly of the German Ornithologists, but was again unsuccessful. Later-day enactments, however, justified Baldamus's attitude. Surely he was a prophet before his time.

Subsequently (1868) the excessive increase of injury done by insects, together with the decrease of birds, forced the German farmers and foresters into the first practical movement regarding protection. They appealed to the Austrian and Hungarian Governments to join the other States to endeavour to bring about an international agreement for the protection of animals of value to agriculture and forestry. Both these Governments agreed to support the German farmers on condition that the movement was restricted to the protection of birds useful to agriculture. This suggestion was the beginning of international protection of birds in Europe, but, as we shall see, it was not till after many vicissitudes and conventions, extending over a period of more than 30 years, that an international policy of bird-protection became an accomplished fact.

Diplomatic negotiations were set afoot to provide for a friendly reception of the cause of bird protection in the interests of

* Abridged from "The International Convention for the Protection of Birds, concluded in 1902: and Hungary. Historical Sketch, written by order of His Excellency Ignatius de Darányi, Hungarian Minister of Agriculture, by Otto Herman, late M.P., Director of the Hungarian Central Bureau for Ornithology. Budapest, 1907."

agriculture, and to restrict the catching in the masses, as far as possible, where bird-catching was particularly fashionable. This idea found favour in almost the whole of Europe. Even Italy, the greatest transgressor at bird-catching in the mass, declared, in 1869, its approval of the principle.

The time appearing opportune to draw up certain declarations of principles to be adopted by the contracting countries, the Swiss Federal Council, in 1872, proposed to summon an international commission to draft an agreement, a proposition which was seconded by the German Government. The commission never met. Some of the countries raised objections, and preliminary negotiations failed.

As Italy seemed the most difficult country to win, because bird-catching there was of great importance as a means of livelihood for the lower classes, one of the most prominent of zoologists, Ritter von Frauenfeld, Curator of the Vienna Imperial Museum, was despatched, in 1872, by the Austrian Government to Rome to endeavour to agree on certain points with Professor Targioni-Tozetti, the delegate of the Italian Government. After an exhaustive treatment of the subject, the two experts agreed to six general articles. The articles were not received without much hesitation in Italy, where all the good intentions of the Government were in vain. The feelings of distaste among the people were unconquerable ; the prohibition of the permanent large nets, so well adapted for capturing birds in the masses, excited particular disfavour.

Then came the International Economic Congress at Vienna, in 1873, which afforded an opportunity for meetings of various delegates and experts. In the Agriculture Section, presided over by the Hungarian Minister of Agriculture (Baron de Chlumetzky), one of the questions of first importance was—“What measures are required for the protection of useful birds?” Some of the speakers who took up the cause were among the foremost ornithologists and experts of the day, including Dr. Frederick Tschudi (Swiss), who stated his conviction that every useful bird—notably insect-eaters—should be specially protected. Every year millions of little birds of great value to agriculture went into the stomachs of *gourmets*, therefore the first duty to decide was what birds might be hunted. He proposed the formation of an international committee, and submitted nine rules or suggestions for consideration. Emil von Marenzeller (Austria) approved of the idea of a convention or committee, and submitted three further points for discussion, also two lists—(1) useful birds; (2) noxious birds. Dr. Alfred Brehm (Germany) also proposed important measures, concluding his speech by advising the inclusion in the scheme of popular teaching, or some means of acquainting the public at large with birds, for, in his opinion, no protection could be more

effective than that resulting from an enlightenment of the people. After further discussion by other eminent *savants* the president requested the following gentlemen—namely, Messrs. Tschudi (Switzerland), Marenzeller (Austria), Brehm (Germany), Blomeyer (Germany), Settegast (Germany), and Middendorff (Russia)—to form a committee with a view to bring into line the various proposals. The committee reduced the recommendations to seven. The Congress of Agriculturists and Foresters then formally moved that the Imperial Austrian Government be requested to secure the protection of birds useful to agriculture by means of treaties to be made with the other European States on the said seven points of recommendation. Both the Imperial Austrian Minister of Agriculture and the Royal Hungarian Minister of Agriculture found that the seven clauses were a suitable basis for international convention or negotiation. But there was already a written agreement existing between Austria and Italy. (See previous.)

In course of time Count Gyula Andrassy became Austro-Hungarian Foreign Minister, and before inviting the States of Europe to consider the seven points of recommendation, the Count attempted, in 1875, to arrive at an amended agreement with Italy, a country which, by reason of its geographical position and the deep-rooted custom of its people, was of first importance. This wise move was entirely successful. A new "declaration," with "protocol" attached, was formally signed by Count Andrassy on behalf of the Austrian Monarchies, at Budapest, 5th November, 1875, and by Visconti Venosta on behalf of the Government of Italy, at Rome, 29th November the same year, the stipulations being as follow :—

1. The Governments of the two parties to this contract bind themselves to create, through their respective Parliaments, strict and comprehensive legislation with a view to securing the protection of birds useful to agriculture, at any rate within the limits prescribed by the following clauses.
2. The destruction of nests and lairs, the taking of eggs, the fowling of small birds shall be absolutely forbidden. At the same time it is in general forbidden to sell nests, eggs, and nestlings procured in defiance of the prohibition.
3. Further, the prohibition of the following acts is declared :—
 - (a) The catching or killing of birds at night with bird-lime, nets, guns, or other weapons. Night is the period between one hour after sunset and one hour before sunrise.
 - (b) The catching or killing of birds so long as the ground is snow-covered.
 - (c) The catching of birds on river banks, at springs, or on the banks of lakes, in times of drought.
 - (d) The catching of birds by the strewing of seeds mixed with narcotics or poisons, or with other baits.
 - (e) The catching of birds with nooses, nets, or any other implements used on the surface of the ground, such as traps, snares, the Dalmatian "plocke" or the "lanciæxera" used for snaring larks.

(f) The catching of birds with the "parexella," or, indeed, with any other style of moving, movable nets, or such as may be spread on the surface of the ground, in fields, on bushes and shrubs, or on roads.

The Governments of the parties hereby contracting reserve to themselves the right of prohibiting the catching of birds in any other manner, if the reports of experts deputed by Austria, Hungary, or the Senate of the Italian provinces prove that the methods in question are particularly destructive and harmful to the birds of the respective territories.

4. Recapitulation. Apart from the restrictions of 2 and 3, the catching or killing of birds shall be permitted only in the following manner:—

(a) From 1st September till the end of February, with guns.

(b) From 15th September till the end of February, in any other way not prohibited.

The sale of birds except during these periods shall be prohibited.

5. Under certain conditions, by special request, if such request be justified, the respective Governments may allow exemption from the regulations 1, 3, and 4, in the interest of the furtherance of scientific research.

6. As, according to 1, the only object of this declaration is to protect birds useful to agriculture, it goes without saying that 2-4 do not apply to domestic or field farming, or to the farm-yard.

Though the regulations of 2 and 5 do not apply to birds that, from an agricultural point of view, are not decidedly useful or noxious, if the latter are of some value as game, the respective Governments are inclined to take measures to protect such species as game.

7. The Governments of the contracting parties shall inform one another of protective measures taken in their respective States, and shall give all information that may be necessary or desirable.

8. The Governments of the contracting parties shall use every effort to secure the collaboration of the other States.

9. The present declaration shall be drawn up in two copies of identical text, and signed by the Foreign Ministers of the respective parties, one copy to be kept, after mutual signature, by each of the signatories.

The following year (1876) the Austro-Hungarian Foreign Minister saw in the foregoing declaration an excellent basis for the extension of agitation to cover the countries of Europe, and an appeal was first made to Germany and France, then to Switzerland, Belgium, Holland, Russia, Spain, and Greece. Progress was slow, the majority of the Governments avoiding any binding promise, and being apparently dependent on the attitude of Germany, where the Reichstag was already considering the draft of a bill to provide for the uniformity of the regulations for the protection of birds all over the empire. All considered that no decision could be arrived at pending the passing of that bill.

The first International Ornithological Congress, 1884, which was opened by the Crown Prince Rudolph in person at Vienna, gave another impulse to the cause of international bird protection. However, the only practical (or rather impractical, as it subsequently proved) result was the forming of a Permanent International Ornithological Committee, with power to prepare a carefully elaborated scheme for the next Congress, or any other suitable occasion. In the meantime matters were kept

alive in Hungary, and the organisation of the second Congress was taken over by the Hungarian Minister of Public Instruction, chiefly because the Permanent International Ornithological Committee proved unworkable. Its members were scattered all over Europe. Therefore it is easily understood that the committee never met. The president and secretary held communication by letter only, acted apart, and spent the money voted by the States independently. This led to an open breach between the Brunswick president and the Vienna secretary, and the committee of portentous name, which should have been an important body, became incapacitated. Accordingly, the Hungarian Minister of Public Instruction (Count Albin Csáky) approved of a committee of management chosen by the Royal Hungarian Natural History Society, with Dr. Geza Entz (as chairman) and Otto Herman (as secretary), while the Government was represented by Imre Szalay, Ministerial Councillor. This committee was formed at the end of 1889, and at once entered into the work of organisation for the second International Congress, which met at Budapest, Whitsuntide, 1891. The Congress in all sections was a brilliant success, the Continental ornithologists being especially pleased because it was the first occasion on which Britishers took part in an international ornithological gathering on the Continent. Dr. R. Bowdler Sharpe, of the British Museum, was present, as also was Dr. Arthur Chadbourne and Dr. Lewis Bishop (of U.S.A.), while those who were requested to treat the several questions sent reports, viz.:—Cordeaux, Slater, and Newton, of Great Britain, as well as celebrities from other countries—Fürbringer, the German anatomist; Giglioli, the Italian ornithogeograph; Palmén, the Finnish ornithobiologist; and Oustalet, the French ornithologist. The Congress was opened by the Minister of Agriculture (Count Andrew Bethlen) and closed by the Minister of Public Instruction (Count Albin Csáky). Class VI. dealt with everything relating to the economic significance of birds, including the question of international bird protection. Not the least interesting of its proceedings was a digest of the operative bird laws of the several European States. At this Congress it was resolved to return to the Austro-Italian "declaration" of 1875. The clock was thus put back 16 years, but a successful ending was in sight.

Germany, in 1892, endorsed the "declaration" of 1875. Then, after a delay due to the circumlocutive nature of diplomacy, France, in 1895, invited the States of Europe to appoint delegates to attend a conference at Paris to further discuss the question of international bird protection. After much discussion, not without critical junctures, a draft argument containing 15 clauses, with 2 schedules (useful birds and noxious birds) was prepared, and unanimously adopted by the International

Conference on 29th June (1895). The epitome of the fifteen paragraphs of the draft adopted is as follows :—

§ 1. Deals with the schedules of birds voted useful or noxious, but recognizes the right of signatory States to *enlarge* the schedules to meet the requirements of their own interests.

§ 2. Protects nests, broods, and fledglings, but admits the right of independent regulations concerning houses and the interior of courtyards.

§ 3. Prohibits instruments adapted to the wholesale taking of birds (expressis verbis : “la destruction en masse des oiseux”— viz., nets, gins, snares, bird-lime, &c.).

§ 4. Deals with the enforcing of the foregoing clause, which may be done *gradatim*; but the prohibition remains in force as ultimate aim.

§ 5. Arranges for close season for birds to be protected, to last from 1st March to 15th September, except in cases provided for in §§ 8-9; regulates import, transport, and “transito” traffic.

§ 6. Defines modifications permissible by authorities.

§ 7. Defines exceptions to be made in the interests of science and regulates the keeping of living birds.

§ 8. Contains regulations relating to the poultry yard, winged game, birds living on preserves, guns, and sale.

§ 9. Defines the exceptions which the respective States may make.

§ 10. Binds the signatories to adapt their own laws to suit the Convention, within a period of three years from date.

§ 11. Binds the signatories to communicate to each other any laws or municipal decrees relating to the matter in question.

§ 12. Provides for the settling of all questions that may arise in connection with the carrying into effect of the Convention.

§ 13. Deals with the eventual acceptances later on of other States.

§ 14. Deals with the date for the coming in force of the Convention, and the conditions for withdrawal.

§ 15. Deals with the sanctioning of the Convention and the interchange of documents.

Now came further trouble. The Governments which did not want to participate withdrew—Great Britain, Holland, and Russia. This was permissible, seeing that the delegates who had signed the minutes of 29th June, 1895, did not bind their Governments to anything, as the provision distinctly stated that the draft shall be submitted for the approval of the Governments—*i.e.*, the final decision was reserved. Italy lost no time in declaring she would not accept the draft. The withdrawal of Italy was deemed of great importance, because useful birds were there not only without protection, but were liable to most brutal methods of wholesale destruction. Moreover, its birds were mostly migratory, therefore alien property so far as Italy was concerned. Switzerland and Sweden made modified demands.

Five years subsequently (1900) came the World's Exhibition at Paris, which was made the occasion of another (the 3rd) International Ornithological Congress, which eventually and happily placed the final stamp on the international movement for the

proper protection of birds. This Congress was notable for two reasons—(1) because the delegates of the Paris feather merchants and of the millinery houses appeared before the Congress to oppose the cause of bird protection, which threatened to injure trade interests ; and (2) because the Congress framed resolutions requesting the respective Governments to institute thorough research as to the food of birds, in order to decide the question of usefulness or noxiousness. This report was to have been delivered at the 4th International Ornithological Congress, held in London in 1905.

Finally, mainly through the splendid efforts of the Austrian and Hungarian Governments, the result of the two Paris Congresses was kept moving till success (if not altogether complete) was most assuredly attained. At Paris, on the 19th March, 1902, the following thirteen countries or States, through their respective plenipotentiaries, subscribed to a model bird bill to be incorporated in the laws of their countries, viz. :—Austria, Hungary, Germany, Belgium, Spain, France, Holland, Luxembourg, Monaco, Portugal, Sweden, Norway, and Switzerland.

The following were the clauses agreed upon :—

ARTICLE 1.

Birds useful to agriculture, particularly the insect-eaters and namely those birds enumerated in the first Schedule attached to the present Convention (which Schedule the Parliaments of the several countries may enlarge by additions), shall be unconditionally protected by a prohibition forbidding them to be killed in any way whatsoever, as well as the destruction of their nests, eggs, and broods.

Until such time as this result shall be completely realised, the high contracting parties bind themselves to take, or to propose to their Parliaments to take, all such measures as are necessary to carry the resolutions contained in the following clauses into effect.

ARTICLE 2.

It shall be forbidden, at any season and in any manner whatsoever, to steal nests and eggs, to take or destroy nestlings.

The import of these nests, eggs, and nestlings, their transport, the colportage of the same, their putting up to sale, their sale and purchase shall be prohibited.

This prohibition does not concern nests built by birds in dwelling-houses, or any kinds of buildings, on the same or in the interior of court-yards, which may be destroyed by owners, occupiers, or any person authorised by the same. [Further the enactments of the present clause may be considered invalid in the case of the eggs of Lapwings and Gulls.]*

ARTICLE 3.

The construction and employment of traps, cages, nets, nooses, lime-twigs, or any other kind of instruments used for the purpose of rendering easy the wholesale capture or destruction of birds shall be forbidden.

ARTICLE 4.

In case the high contracting parties should not be in a position to enforce the prohibitions included in the preceding clause at once and in their entirety, they may mitigate the severity of the said prohibitions as required, but engage to restrict the use of methods, weapons, and instruments of

* Later addition.

capture and killing in such a manner that the protective measures contained in Article 3 may be carried into effect gradatim.

ARTICLE 5.

Besides the general prohibitions enacted in Article 3, it shall be forbidden, from 1st March to 15th September of each year, to take or kill [those useful birds which are enumerated in the first Schedule attached to this Convention].*

The sale or offering for sale of the same is also, during the same period, forbidden.

The high contracting parties engage, as far as their respective laws permit, to prohibit the import and delivery as well as the transport of the said birds from 1st March till 15th September.

[The duration of the close season prescribed in this Article may be modified in the countries of Northern Europe.]†

ARTICLE 6.

The respective authorities may give exceptional temporary licences to the owners of vineyards, orchards, and gardens, of nurseries, afforested ground or cornfields, or to the cultivators of the same or to individuals entrusted with the control of the same, for the shooting of birds whose presence is harmful and causes real damage.

However, the sale or offering for sale of birds shot under such circumstances shall be forbidden.

ARTICLE 7.

The respective authorities may grant exemptions from the enactments of this Convention for scientific purposes or to encourage the propagation of birds, in single instances and after taking all measures of precaution necessary to prevent any abuse of the same.

Permission may be granted—similar preventive measures being taken in every case—for the taking, sale, and keeping of birds intended to be kept in cages. Permission to be granted by the respective authorities.

ARTICLE 8.

The enactments of the present Convention do not apply to poultry, or to birds regarded as game (winged game) which are on preserves and are included by the Parliaments of the respective countries among birds considered as game.

The destruction of winged game, on any other territory whatsoever, is permitted with firearms only and in the period prescribed by law.

The signatory States [are requested]‡ to prohibit the sale, transport, and delivery of any winged game the shooting of which is forbidden in their own country, as long as this prohibition lasts.

ARTICLE 9.

Each of the contracting parties may grant exemption from the enactments of the present Convention:

1. In the case of birds, the shooting and destruction of which, as noxious to the interests of shooting sport and fishing, is permitted by the Parliament of the respective country;

2. In the case of birds branded as noxious to the agriculture of the country by the Parliament of the respective State.

In case there should not be an official schedule compiled by the respective

* Original: "les oiseaux quelconques, sauf les exceptions indiquées aux articles 8 et 9."

Modified: "les oiseaux utiles énumérés dans la liste No. 1 annexée à la Convention."

† Additional.

‡ Originally: "s'engagent."

Legislature [§ 2 of the present clause]* shall be enforced in the case of those birds which are enumerated in Schedule 2 annexed to this Convention.

ARTICLE 10.

The high contracting parties will take steps to have their laws brought into harmony with the enactments of the present Convention [*within three years from the date*]† of the signing of the said Convention.

ARTICLE 11.

The high contracting parties engage to intercommunicate, through the medium of the French Government, all laws and municipal measures which are at present in force or have lately come into being regarding the subject of the present Convention.

ARTICLE 12.

The high contracting parties, should they find it expedient, shall have themselves represented at an international conference deputed to discuss questions that may arise in connection with the carrying into effect of the Convention and to propose any modifications, the expediency of which has been justified by experience.

ARTICLE 13.

Those States which have not participated in the present Convention may join the same, if they wish to do so. Any such intention must be diplomatically communicated to the Government of the French Republic and by the same to the Governments of the other signatory Powers.

ARTICLE 14.

The present Convention shall come in force at latest within a year from the date of the interchanging of papers.

It remains in force for all the signatory Powers for an indefinite period. Should any one of the same withdraw, such withdrawal does not affect the other Powers, and comes in force only one year from the day on which the withdrawal was brought to the notice of the other signatory States.

ARTICLE 15.

The present Convention shall be ratified and the ratified documents shall be interchanged at Paris within the shortest time possible.

[ARTICLE 16.

The enforcing of the measures contained in the second paragraph of clause 8 of the present Convention may be dispensed with exceptionally in the northern provinces of Sweden, owing to the absolutely peculiar climatic conditions of those regions.]‡

Suggestions.

I take it for granted that ornithologists are nothing if not practical, particularly in the direction of bird protection. Then let us see to the great question in Australia before it be too late. Certainly we should not be behind the countries of either the Old World or the New in matters of bird protection. I believe the great future of Australia will be its natural productions—chiefly agricultural—and it is written, “The profit (the fruit) of the earth is for all.” Apart from the physical elements, the most important allies of the farmer, pastoralist, or orchardist are our beloved birds—not to mention the delight that many of

* Originally: “l'article 9 sera appliqué.”

† Originally: “du jour fixé pour la mise en vigueur de la Convention.”

‡ Absolutely new addition: v. *supra*.

them give us in form, colour, and song. Australian producers appear slow to recognise the great utility of birds, because their (the birds') work is mostly unobserved. The diet of numerous birds consists mainly of the lower forms of life—insects, and such like crawling creatures. Experts who have studied the question know how the lowly hordes of insect pests increase, often at an astounding rate, and what a destructive power they are to almost every living green thing. Happily this insect life is kept in check by birds. Contemplate what would become of the forest and field—the pastures of man and beast—were there no birds? The land would in time become a wilderness. In endeavouring to combat the attacks or increase of insect pests there is no "insecticide" so cheap or so effective as the original and natural one—birds; therefore, let us at all times, in all places, and by all means protect our useful native birds from destruction, not to mention the humanitarian and ethical side of the question. Referring *en passant* to the humanitarian and ethical side, the study of Mr. A. Mattingley's graphic pen and picture description in the last issue of *The Emu*, concerning the ruthless destruction of beautiful snow-white Herons in Riverina by the plume-hunters, should spur all bird-lovers into hot action.

In all probability the following session of the A.O.U. will be held in Melbourne next November, 1908. I would suggest that we make that session famous by calling a congress of all persons interested in bird protection. We could at least have a conference of one delegate from each State (following the example of the kingdoms of Europe) appointed by the respective administrators of the *Game Acts*, and invite them to consider as a basis the Model Bird Protection Bill which our member, Mr. C. F. Belcher, M.A., LL.B., is preparing for the Council. The contingent expenses of such a conference would be trivial compared with the importance of such a national concern, and I have no doubt that the Government of Victoria, if approached through the Hon. the Premier or the Hon. the Minister of Agriculture, would readily guarantee the small expense.

Therefore, in conclusion, ladies and gentlemen, I beg to move, accordingly, that a deputation be appointed by this session, or the Council of the A.O.U., to wait upon the Hon. the Premier or the Hon. the Minister of Agriculture, Victoria, regarding this matter early next year.

Report of Honorary Secretary.

LADIES AND GENTLEMEN,—Your Council has much pleasure in presenting to you the sixth annual report, embodying a *précis* of the transactions of the A.O.U. for the year ending 30th June, 1907. During the past year excellent progress has been made in the Union's affairs.

Applications for membership have been increasing, and there are indications that the initial efforts of the Union are being surely though slowly crowned with success. The objects for which the society was founded—namely, the advancement and popularisation of the science of ornithology and the protection of useful and ornamental avifauna—are being steadily proceeded with, more especially as regards the popularisation and protection of our bird-life. It is, however, desirable that the study of the more abstruse problems relating to the structure and uses of the organs of our birds, as well as research in other neglected fields of study of the ornis, be systematically undertaken. The impetus given to nature study in our primary schools is bearing excellent fruit, and the desirability of the protection of our useful birds is being thereby more prominently impressed on the minds of the juvenile section of the community, which in recent years was responsible for much wanton destruction, and it is pleasing to know that, generally speaking, the avifauna, at present, is less molested by those of immature years than formerly. Some students, however, in their eagerness to excel in the study of our bird-life, collect specimens and eggs needlessly for identification, and it is to be hoped that the evils attendant on such practices will be remedied by their instructors.

Much desirable work is being accomplished by our light-keepers, who forward useful and informative notes on birds that happen to strike the lighthouses whilst migrating. The Council would be pleased to receive any further notes on the migration of birds up to the end of the current year, so that they can be tabulated.

Application was made to the Council of the A.O.U. to appoint delegates to represent the Union at the Seventh International Zoological Congress, held at Boston, Mass., U.S. America, in August, 1907. Two representative members of the Union were appointed as deputies.

Endeavours have been made to have the laws relating to the protection of Egrets and Birds-of-Paradise made more effective, since large numbers of these birds are annually destroyed for their beautiful plumes, which are used for millinery purposes.

Coloured plates of unfigured Australasian birds will be continued in *The Emu*, but as the regularity of the production of these plates depends on the financial condition of the coloured figure fund, which is raised by voluntary subscription, it is to be hoped that further donations will be forwarded by members to assist in this useful work, thereby advancing the status of the journal.

The thanks of the Council are again due to Col. C. S. Ryan for the gratuitous use of his rooms for Council meetings, and also to the Zoological Society of Melbourne for the storage in their fireproof room of the books, &c., of the Union.

Notes on a Collection of Birds from North-West Australia.

By ROBERT HALL, F.L.S., C.M.Z.S., AND JOHN P. ROGERS.

THESE observations were made upon and adjacent to the little-known country about the Townsend, Kightly, Stewart, and Robinson Rivers and the Obogama district.

About each of the localities named Mr. Rogers spent a brief time, and many interesting notes are consequent upon his labours. In nearly every reference to habits skins have been carefully collected and preserved.

In the first letter from Obogama, dated 7/6/02, Mr. Rogers wrote:—"You will observe I have reached the promised land, finding it a good place for birds, and quite up to expectation. I am now 12 days out from Derby, of which nearly the whole time was spent in travelling. The first camp is known as the Big Spring, on the Obogama road, and about 63 miles from Derby. There I secured what I believe to be the following species:—Shining Flycatcher, male and female; Northern Fantail, male; Blue Flycatcher, male; and young with adults of *Myiagra latirostris*. This spring is approximately 1 mile in circumference, with a very dense growth of vegetation. It contained a large number of species, but, owing to want of horse feed, I had to move off. The second camp was 8 miles up the Townsend, which yielded the Brown Quail. The third camp was further continued, where I secured a Spotted Harrier, Smutty Parrakeet, Partridge Bronze-wing Pigeon, and a Little Shrike-Thrush. The fourth camp, distant 7 miles, brought me into rough, hilly country, where the traces of natives were fresh and numerous. Being alone, I moved along almost at once. Here I secured a small Heron (sp.?), a Jacana in the lily leaves in a large waterhole, and a Silvery-crowned Friar-Bird."

"Along the shores of King Sound there is a fringe of mangroves several miles wide, probably four. Travelling is very tiresome, mosquitoes exceedingly numerous, and the mangrove roots difficult to pass, one mile an hour being a good result."

Mr. Rogers communicates to me the information that Mr. Felix Meyer, one of the oldest residents, considers he (Mr. Rogers) is the first collector to visit the Obogama country. Mr. Meyer, once manager of the Meda station, adjoining Obogama, met Mr. Bowyer-Boyer, who collected on the Fitzroy River, as far up as Mt. Anderson, 60 miles from Derby, where he remained camped for some weeks. There was a gentleman, by name Frogget, who travelled so far out, and another whose name is forgotten. If Mr. Alex. Forrest had a collector with him in his exploration trip into West Kimberley, he must have been near Obogama. Dr. House has not travelled through the

Obogama country ; neither did Mr. G. A. Keartland in the Calvert Exploration tour ; nor Mr. Tunny, when collecting for the Western Australian Museum in conjunction with the Hon. Walter Rothschild.* Plumage references to the species here mentioned have already been made in *The Emu*.

EUTOLMAËTUS AUDAX (Lath.), Wedge-tailed Eagle.—In a gorge of the Stewart River (1/9/02) I found in a fork of a baobab tree a nest, very large and very old, with filthy surroundings. There was one young bird within it. The nest was covered with young gum branches.

MILVUS AFFINIS (Gould) Kite.—As many as 40 have gathered at one time around my buggy. During the period the large grasshopper with yellow wings crosses the plains, the Kites feed largely upon them while on the wing.

MYIAGRA RUBECULA (Lath.), Shining Flycatcher, was seen in the mangrove to-day (25/8/02, Stewart River). There was a pair. The male seemed very excited, for, when it saw me, it raised its crest and uttered a short, sharp note, repeating it several times. When calling it lowered its head and body, at the same time raising and spreading its tail, fan-like. A bow was given with every call, in the same manner as that of a Dove. I could not find the nest in the dense scrub.

MYZOMELA ERYTHROCEPHALA (Gould), Red-headed Honey-eater, in the thick scrub of the Stewart River was difficult to collect. It was very tame and quite numerous, but always at the muzzle of the gun before it could be seen. A few feet is the usual range of sight.

PHILEMON CITREOGULARIS (Gould), Yellow-throated Friar-Bird, was building a nest on 5/11/02, and completed it 6/11/02. One egg was observed in the nest on the 7th, and a second on the 9th. The nest was placed in the hanging branches of a bauhinia tree, and about 7 feet from the ground. The materials were composed of the stems of annuals, a few grasses, and a quantity of hair from the tails of the cattle ; firmly fastened to the branches with pieces of silky cocoons.

EPHTHIANURA TRICOLOR (Gould), Tricoloured Chat, left Derby in June-July, 1902. In flocking they were closely associated with *Artamus personatus*. While the Wood-Swallows were in many thousands, the Chats were only in small flocks ; one flock rising immediately after another, in continuous line. On 23/7/02 this Chat was the commonest species in the district between Derby and the Meda station, 25 miles out upon the Obogama road. Here I saw the last small flock. I now (23/9/02) find they are still numerous on the Fitzroy road, 20

* *Novit. Zool.* 1905 (Ernst Hartert).

miles from Derby, as well as upon the Logue River, some 40 miles from Derby, and upon the Broome road (24/9/02).

MALURUS DORSALIS (Lewin), Red-backed Wren, is again in full plumage (15/9/02, Fitzroy River); one or more "reds and blacks" are to be seen in each little flock. Many full-plumaged males are now visible (30/8/02, Stewart River).

ARTAMUS SUPERCILIOSUS and *A. PERSONATUS* (Wood-Swallows) have disappeared from the Stewart River (1/9/02). Doubtless they have gone south for the "hot weather." Nothing peculiar was noted in their behaviour before leaving. On the Robinson River (18/8/02) both species were very numerous, while on the 9/10/02 they all retired from the flats of the river. There was still an abundance of flowering trees on which these species had congregated, and doubtless plenty of insects in the nectar-pots. It was, therefore, not a scarcity of food that sent them away. In Derby (20/7/02) *A. personatus* was to be seen in thousands, while *A. superciliosus* was not numerous. A few of the males of the latter species were among flocks of the former species. Both species had left Derby 23/9/02.

ARTAMUS CINEREUS (Vieill.), Wood-Swallow, started to build its nest on 28/10/02—first notice for this season. It was placed upon a low bauhinia and 8 feet from the ground. The nest was made of fine twigs and stems of grasses, built very much as is usual with this genus.

CUCULUS INORNATUS (PALLIDUS),* Pallid Cuckoo, was heard for the first time this season 13/10/02, 4 a.m., on the Fitzroy.

CINCLORHAMPHUS CRURALIS (V. and H.), Brown Song-Lark, was heard to sing (14/10/02) for the first time since last summer. Several were singing 29/10/02. The Mirafra has not yet commenced to sing.

MIRAFRA (sp.), Bush-Lark, commenced to sing to-day (26/11/02)—the first heard this season. Many were full of song, possibly owing to the fall of 30 points of rain.

CRACTICUS PICATUS (Gould), Pied Butcher-Bird, sub.-sp., had a nest containing three young, 17/11/02. On the 30th inst. one was taken and preserved, when the stomach was found to contain a young snake 8 inches in length, one lizard, and a second so long as to be partly exserted from the mouth.

PETROCHELIDON ARIEL (Gould), Fairy Martin, was seen in a large flock, numbering many hundreds, 24/8/02. They were flying over a pool in the early morning. Their wings made a rustle like a far-off wind in timber. [No skin came to hand.—R. H.]

* Cf. *Ibis*, Jan., 1900.

PODARGUS PHALENOIDES (Gould), Freckled Frogmouth, had a nest upon a horizontal fork of a eucalyptus. It contained two downy young, 29/10/02. The materials of the nest were fine twigs, with linear leaves for lining.

PHAPS CHALCOPTERA (Lath.), Bronze-wing Pigeon, was observed this morning (15/11/02) on an old dry tank. In one corner of it there is a tiny soak beneath an overhanging rock. The bird had scratched a little hole with approximately the area of an ordinary tea saucer, and was waiting for the water to "make." Two other Pigeons were waiting near by for their turns.

Some 10 miles from the Stewart River there is a pool of fresh water near the salt marsh. Each evening (August, 1902) the Pigeons used to visit it in large numbers. After sundown in this district this species is plentiful, but one may walk in the day many miles before seeing even one.

GEOPHAPS SMITHI (Jard. and Selb.), Smith Partridge-Pigeon, was a common bird at a fresh-water pool near the large salt marsh 10 miles out from the Stewart River, near Obogama. It appears to take the place of the little Plumed-Pigeon (*Lophophaps*), which is numerous on the Fitzroy, but not to be found about here. There is a peculiar hill adjacent from which this pool gets its name, "Malmalaro." The hill is composed of red sandstone, with all sides precipitous. The top is a table-land thickly covered with broken fragments of fairly uniform size. The blacks have a terror of this hill, believing the last is seen of him who climbs to the imaginary big black hole where the evil spirit catches one and all, saying nothing about what he does with his victims. The wonder is this prominent landmark is not mapped for the guidance of travellers, appearing black, while all the adjacent hills show white by reason of their "feldspar."

XENORHYNCHUS ASIATICUS (Lath.), Black-necked Stork, I merely saw once, but nearing home on the Broome road crossing upon the Fitzroy River I observed four (23/9/02). This crossing is the junction of the fresh and salt waters. They did not appear to be catching anything, and were stalking about in the shallow water. Later on I saw one apparently dancing in the 3-inch depth of water, but upon watching it for some time I saw it capture a small fish. While pursuing the fish it presented an extraordinary sight, jumping along with great strides and assisting itself with its wings. It was repeatedly "jabbing" at the fish with its huge bill, and which it captured only after many attempts. It was far from a graceful performance.

BURHINUS GRAILLARIUS (Lath.), Stone-Plover, had two eggs (6/11/02) in a slight depression under a stunted wattle tree upon a sandhill. The depression was full of fallen bauhinia

leaves, which, being old, were in exact agreement with the colour and dark blotches of this pair of eggs. As all the small holes are full of these leaves, the wind seems to have placed them so. In the scrub and near this nest the owners were patiently and fearfully watching. On a second set of eggs the ground colour and markings were quite different. "A gin brought two eggs to my camp to-day (same day as the find just mentioned) and said that they were those of a Stone-Plover, pointing at the one I had in captivity. A blackboy tells me they lay one kind at one time and another on a second occasion, but offered no explanation."

EULABEORNIS CASTANEVENTRIS (Gld.), Chestnut-bellied Rail, was secured at Storm Camp, 8 miles west of Malmalaro, 26/8/02. It has a call that quite puzzles one on first acquaintance. The sound is unlike that of any other bird in the bush, consisting of alternate notes rapidly repeated many times, the first being more like the alarm notes of the White Cockatoo (*C. galerita*), the second like the drumming of an Emu, but much louder. The call is generally given when a gun is fired. On hearing the bird I tried for hours to get a sight of it, my idea of it being that a Bittern was calling. A few days later, and when I had given up all hope of seeing it, one called when in a patch of mangroves and walked straight up to me. Upon wounding the bird with my gun it fell and then rose and bolted through the scrub, I following the fastest feathered creature yet hunted by myself. Tracking the bird in the soft mud I heard a cry, and finally found it about one hundred yards away, quite dead. If the mosquitoes were less numerous one could secure the birds by sitting still. They are unbearable.

HEODROMUS OCHROPIUS (Green Sandpiper) I observed to-day (19/8/02) for the first time this season.

OCHTHODROMUS VEREDUS (Gld), Oriental Dottrel, was seen for the first time this season, 23/9/02, near the Broome road crossing on the Fitzroy. Among them were a few White-headed Stilts, Red-kneed Dottrels, and Green Sandpipers.

Some Notes on the Location of Birds in the Vicinity of Homesteads, Break-o'-day District, Tasmania.

BY COLONEL W. V. LEGGE, F.Z.S., &c.

OBSERVATION of the habits and economy of the ornis of a newly settled country reveals the interesting fact that the introduction of hedges, the formation of plantations of exotic timber for shelter purposes, and consequent alteration in the character of the woodlands, have no little influence on the distribution of some species of birds.

In the early days of the taking up and settlement of this part of the Island, the Break-o'-day plains were clothed in part by tracts of open timber, the trees being, of course, for the most part in the vigour of their life, and based with a certain amount of undergrowth. The flat country thus clothed was backed by thick bush at the foot of the ranges, which extended up their slopes in an endless wilderness of forest. The thinning out of the plains timber, consequent on settlement, with the usual procedure of ringing and burning out, led to inroads on it from wind and frost, these effects being followed by the decay and falling of smaller trees, and the destruction likewise of all young seedlings by sheep and cattle.

From these causes, birds that were no doubt common on the plains in the days of the aboriginal gradually moved back to the thicker bush at the foot of the ranges. This was combined by an alteration in habits on the part of species which originally frequented the primeval undergrowth, and which in after years took to the newly planted hedges and other introduced "shelter."

Climate and settlement had caused such a change eventually that on coming out to the colony more than twenty years ago the writer found the country round his homestead almost quite denuded of Australian timber, such as eucalyptus, acacia (including both kinds of wattle and blackwood), banksia (honeysuckle), casuarina (sheoak), and so on. Sweetbriar—that unfortunately introduced pest—gorse, broom, and *genista* formed the hedges planted by the early settlers for ornament and shelter. Provision of shelter by the introduction of quick-growing exotic conifers was a consideration, and that admirable tree *Pinus insignis* was chosen for the purpose, with such good effects by continuing the planting year after year that a complete change in the aspect of the surrounding landscape has been the result. This has been combined with a yearly increasing provision of shelter from the tempestuous winds, which, coming from Ben Lomond and the central Tasmanian highlands, annually sweep these plains.* Single rows, or belts, of trees were first tried, then double, and both these shelters abandoned finally for clumps and small plantations of the size and shape to suit the locality and elevation of land. The effect of this re-afforestation, combined with the existence of the shrubberies originally planted in the first half of last century in the vicinity of the house, has been to induce a variety of species, some of

* The Break-o'-day plains comprise an area of about 3 miles broad by 5 to 6 in length, through which the river of that name flows towards its junction with the South Esk. The tract is bounded on all sides but the west by high tiers, rising abruptly from the upland, which has a general elevation of about 800 to 840 feet. Being swept by strong westerly and south-westerly winds, coming in the winter from snowclad plateaux, the climate is one of the most rigorous of any of the settled areas of similar altitude in Tasmania.

which in past years had doubtless retired back to the timbered areas at the foot of the surrounding ranges, to again, particularly in the breeding season, take up their abode with us.

Noteworthy among these are the genera *Cracticus*, *Collyriocincla*, *Petracea*, *Rhipidura*, *Zosterops*, and *Acanthiza*, as also *Calamanthus*, which has, while still inhabiting the "saggs" and rushes in open paddocks, taken much to hedge-rows, particularly those protected by ditches in the lanes, by-roads, and fields in the district.

The following notes refer chiefly to the above-mentioned birds :—

CIRCUS GOULDI (Harrier).

This Harrier has been mentioned before in *The Emu* as breeding here. Three pairs breed not far from the homestead. Their favourite locality is the belt of water-rush surrounding lagoons, or tussocky, damp marshes in low-lying bottoms. One pair has recently bred in an immense cutting-grass tussock, the trampling down of the rigid interior of which to form the platform having been a work of some labour. In the breeding season the old male of this species courses on the same ground regularly morning and evening. The parent birds are bold enough to forage around the farmyard for chickens, a small number of which are lost every year through their depredations. A nest in a lagoon here, annually occupied, was deserted this year, owing to its being trampled on by stock, and a fresh one built close by.

NINON MACULATA (Spotted Owl).

This little Owl would not affect the vicinity of the homestead were it not for the cover afforded by tree-planting. Every breeding season it is more or less heard in the shrubberies, its call commencing in August. A favourite roosting-place is the *Wellingtonia gigantea*, the horizontal branches and thick foliage forming good shelter for it. Some years ago one took up its abode in one of these conifers in the carriage drive, sleeping undisturbed within 2 yards of the passing vehicles, its perch being about 10 feet from the ground.

COLLYRIOCINCLA RECTIROSTRIS (Whistling Shrike-Thrush).

This interesting bird, which is a denizen of forest and thickly-wooded flat country, comes every year to breed in the exotic plantations, choosing those around the house. Its habits in the breeding season are noteworthy, inasmuch as it then becomes tame and fearless—characteristics, however, which are subject to modification in years when our mischievous Butcher-Bird (*C. cinereus*) occupies the same haunts. In some years the latter does not breed about the grounds, and then the "Whistling

Dick" has the field all to himself, without the fear of the predatory Shrike molesting its young. At such times the male in the early morning indulges in a wonderful variety of "whistles," most of which seem to be solely reserved for the nuptial season, as they are not heard during the rest of the year in the bush haunts of the bird. There is, however, nothing new in this feature of its economy, as it, of course, exists in the case of so many of our palaeartic songsters in Europe. It is in the month of September that this Shrike-Thrush is first heard. Just about daybreak it moves about from tree to tree, keeping usually to the upper branches, and pours forth its loud and not unmelodious whistles, some of which are answered by its mate. The pleasantest calls are those which terminate in a harmonious, long-drawn syllable, all of which could without much difficulty be "syllabified" by any observer possessed of a correct ear for sound. Most of these vocal efforts commence with the syllables *wok* or *wok-wok*, which, in the distance, when compared with the louder ones which immediately follow, are scarcely audible. Occasionally these notes are preceded by a low chattering noise, appearing to come from the region of the mandibles, and which can only be distinguished if one is standing directly under the tree and the bird perched low down in it.

The usual call in the bush—*wok chee-whitee*—is not so much indulged in at this season. A series of the bird's varied notes is often commenced by the call *cho-wē-ē-ēk* or *wok-clē-ēuk*, often followed at a short interval by *quock quock tee tēēenk* or *wok wok te whitee-tēēenk*, the latter syllables forming the melodious sound in the bar. This latter call, or one similar to it, is reiterated for a considerable time in the early morning.

During one season, when the Shrike-Thrushes were very noisy, a pair built in the ivy surrounding the trunk of a eucalyptus, and from the nest the female used to answer her mate in some of his calls. Noticing that the notes issued from the ivy creeper, I climbed up, and, examining it, found the nest; the bird left it and perched on a branch of the creeper, about 3 feet from my head, and, uttering one of her whistles, flew away. The nest was not finished as to lining, and was forthwith deserted by the birds.

As an instance of the fearless nature of this species, I have found them flying into the sheep-shed to pick at the sheepskins while shearing was going on with doors opening into the shed.

PETROECA PHENICIA (Flame-breasted Robin).

It is only of recent years that this beautiful Robin has become partial to our grounds, frequenting the orchard and the lime-avenue, as well as the lawns and vicinity of the plantations. It has been already recorded by the writer as being seen here in

May, June, and August, showing that it remains to a small extent in the island during the non-breeding season. It nests in November or late in October, but prefers to wait, when building in the lime trees, until they are in leaf. In this latter situation its beautiful little cup nest was found one year in the first fork above the trunk, 9 feet from the ground, the outer materials of plant rootlets, fine grass, and ornamenting cobwebs being of the same colour as the bark of the lime, and would have been almost invisible had it not been for the straight edge of the rim revealing its whereabouts in the fork. Another nest, situated on the almost horizontal branch of a *Cupressus macrocarpa*, and, of course, overhung by other branches and concealed from outer view, was not nearly so neatly constructed about the rim, there being no need for its concealment. The nest was shallower and the egg-cavity broader than in the first-named example, demonstrating the influence that environment has on the constructive faculty in so many of our birds. The male is charmingly tame, and ever on the watch for a stray worm or grub when one is digging in the orchard or garden, and often darts on its hapless prey within a few feet of the worker.

In my forthcoming treatise* on the physiography of Ben Lomond I allude to the abundance of this Robin on the plateau in the spring months, which is interesting, inasmuch as this is the loftiest area of its size in Tasmania. The birds frequent the thick, rigid alpine shrubs, interspersed with boulders and tors, which are characteristic of this remarkable tract of diabase formation. They enhance the lonely landscape with their bright plumage, and charm one in the solitude of the far-reaching, Scotch-looking moorland with their sprightly deportment and actions. Some pairs may breed here, as I have seen young birds in March.

PETROCA LEGGII (Scarlet-breasted Robin).

This handsome species rarely visits the precincts of habitations, except in passing to and fro from one haunt to another, when it will remain a few days, but not take up its abode like the last-named bird. It is fond of the open sheep-run, is almost always seen on the ground before it is flushed, and then makes its temporary perch on a bush, fence, or log. Its nest seems very difficult to find. It is, like its congener, a very silent bird.

MALURUS GOULDI (Long-tailed Blue Wren).

This sweet little bird is almost as useful about the garden and grounds as it is beautiful, and there are few species existing that can outdo it in the extraordinary quickness of its action. It would take a quicker than human eye to follow its movements in

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reversing its position on its perch—a little performance which it is fond of making. As regards its use as an insectivorous bird, mention is made elsewhere of its work in clearing away cabbage aphid from a garden. This locality is a favourite haunt of the Blue Wren. It delights in thick clumps of shrubs, such as *Pittosporum*, *Olearia*, *Euonymus*, &c., out of which the little family will dart, one following the other, to the grass, in search of any insects they may espy, and, proceeding hither and thither with lightning-like little hops, will quickly retreat into their cover, or pass on, following each other through the flower beds, to entrap some new insect quarry.

Pampas grass is a favourite situation for the nest of the Blue Wrens. Deep in the recesses of this thick-leaved plant they build a bulky nest, so as to gain foundation for the structure, which is of dried grass, stalks, and "bents," and with a soft lining, among which feathers are usually to be found. Though globular in structure, there is often only a rough hood, and the opening but little finished. Sometimes an open situation will be chosen, a nest a few years since having been built in one of the fir-belts here in a piece of dead briar, which had fallen into a ditch. It was a small fabric, cup-shaped, with only a pretence of a hood at one side, the object being to apparently keep the size of the nest down to a minimum to avoid conspicuousness. Had it not been for the presence of the birds in the fir tree above the nest, one would not have identified it as that of a Blue Wren. There were three eggs—white, with the usual reddish-brown spots and small blotches: but, the situation being so badly chosen for their location, both nest and eggs came to grief before the bird began to incubate—the work, probably, of a Butcher-Bird, cat, or other marauder.

These little birds are so fond of flies, midges, and tiny insects that they sometimes frequent the vicinity of windows in out-houses, outside of which there is perching accommodation for them. From there they will dart up against the glass and catch their food with extraordinary agility, returning to the charge so long as they espy their prey, and perching on the sill to watch for it.

RHIPIDURA DIEMENENSIS (Dusky Fantail).

This charming little bird has of recent years become a visitor in the spring to our plantations, and nests a few yards from the front verandah. Two pairs occasionally come to us from the bush, but we are regularly favoured with the company of one. They are fond of choosing a moderately thick and very leafy shrub, such as the green *Euonymus*, in which the nest is more difficult to detect, though after it has been found one is surprised that it was not seen at the first glance into the shrub. The beautiful architecture and skilful balancing on their twig founda-

tion, showing the first stages of construction of the nests of this Fantail and its congeners, are so well known that one need not occupy space in their description. The materials, however, it may be stated, vary according to the environment. In the vicinity of buildings the tiny rootlets and fern-stalks and bents of which the little domicile is constructed are so covered and interwoven with spider webs that it is almost white. The nest exhibited by the writer at the Congress of the A.O.U. in Hobart last year was a typical example of this class, and constructed less roughly and with a greater amount of solid weaving than a forest-built structure as described in Campbell's book. Hair is mingled with the minute rootlets and soft stalks which form the lining, and sometimes a little wool, the sheep-shed being not far from the plantations.

So tame are these little birds that they will come in and out of the sheds in pursuit of flies and insects while shearing is going on close by. The eggs in the nest above mentioned were incubated by the parent bird within 3 feet of the back of the cane chair in which my invalid daughter sat for many days during the last year of her life, which is the strangest instance one could furnish of the exceedingly fearless and charmingly familiar nature of these delightful little birds. In fact, there is no doubt they suffer in this respect at the claws of the marauding house cat, against which one is compelled to vow vengeance for such a crime. The eggs are nearly always three in number.

A favourite situation in the forest is a bush overhanging a stream, in which I have found it absolutely exposed in a box bush. The tail-like appendage to the wineglass-shaped structure appears to be intended to steady and balance it during the early stages of construction—at least, that is the impression in the writer's mind, and it is to be noted that Mr. Potts held this idea (*cf.* Campbell, part I, p. 109).

The period of incubation is from 8 to 10 days, as far as the writer can judge by observation of the nests built here.*

ACANTHIZA DIEMENENSIS ("Brown-tail," Brown-rumped Tit).

This species, though usually affecting open paddocks, where the timber is sparse, as well as the borders of tracts of bush and forest, has of late years resorted to our shrubberies and

* Since writing the above note a beautiful nest discovered in my grounds proves pretty conclusively that the object of the "wineglass stalk" beneath it is for balance and stability. It is built in the thickly branching ivy surrounding an old eucalyptus trunk. Though cleverly affixed to a small branchlet, this is so weak that the birds have extended an arm of the woven bark along the stenis of two adjoining leaves, and in addition have continued the "stalk" downward farther than usual in order to steady the nest. The hen bird is sitting extraordinarily close. I inadvertently placed my hand almost on the nest the other day, and could, no doubt, have taken her from it. It is therefore no wonder these charming little birds are sometimes killed by cats when choosing their home so close to human habitations.

plantations to build. They frequent by choice the latter, as also the belts of firs, in which trees their large and cleverly constructed nest is sometimes built at the base of a limb, resting against the trunk. In so doing the little architects, like human builders, do not always allow for the strain of wind pressure, and the October gales blow the nests out of their position, wrecking them with their contents.

The Brown-tail builds on these plains in October, some few nests being built as early as September. Soft grasses mixed with fir needles, "bents," and stalks form the outer materials of the globular structure, lined first with wool and rabbit-fur, and then finished internally with feathers alone. Such was the construction of a nest exhibited at the Hobart Congress last year, which was built in a *Pinus insignis* tree; and a similar one has been examined in a *Wellingtonia* by the writer. This latter highly unibrageous conifer forms an ideal situation for the nest of this species.

It may be mentioned here that the Forest Tit (*A. ewingi*), which an A.O.U. member was so fortunate as to procure on Mt. Wellington last year, never leaves its native jungle for the open. It is found, as I have before pointed out, in mixed beech and eucalyptus forests and similar thick scrub in the tiers in eastern Tasmania, and, according to the writer's experience, consorts in pairs, and not in little parties like the species under notice.

ACANTHIZA CHRYSORHOA ("Yellow-tail").

This little bird, like its congener last named, frequents the shelter provided by the homestead plantations, as also the gardens and shrubberies, in the breeding season. Like other foregoing species mentioned in these notes, their numbers have increased materially as the exotic shelter in the paddocks increased. It has bred in a variety of situations of late years. Recently nests have been built in a *Wellingtonia*, about 15 feet from the ground, the nest being at the base of a branch, and against the main stem; also in a *Cupressus torulosa*, its domicile beautifully suspended at the end of a limb, between the pendent branchlets, which gave it shelter from the winds; and in a young stone pine, the nest being fixed between the thickly-growing limbs, which entirely concealed it. The tree had been nibbled by horses, and assumed a "bushy" habit, forming excellent shelter for the little breeding home. The parent bird is very tame when occupying its nest, perching on a limb close to it and sitting motionless while one is examining it. It will, however, desert the nest if the finger is inserted into it before the eggs are laid.

All the nests found here have the second cavity situated above the egg-receptacle. Of the various theories advanced in regard

to the cause for this curious feature, the most plausible seem to relate to its being a nesting place for one or both of the old birds, or for the young after being fledged ; or, again, that its object is to mislead the enemies of this species as to the whereabouts of the real nest. Personally the writer inclines to the last-named theory, the habit having been evolved through long duration of time, like so many other protective efforts which one meets in the study of natural history. If this hypothesis be correct, however, the work of the little birds does not seem to be successful, as one finds the eggs of Cuckoos deposited in the real nest, which is chosen by the Bronze-Cuckoos sometimes where this species is plentiful. As regards the false nest being a shelter for the young birds, I have not found traces of their presence in it, as the droppings would reveal this at once. More careful observation would, no doubt, settle this point conclusively.

The decayed leaves and stems of the "Yorkshire"-fog grass are often used in the structure of the body of the nest of this and the last species, and wool as well as feathers for the lining.

CALAMANTHUS FULIGINOSUS (Field-Wren, Bush Warbler ; "Stink-Bird" of sportsmen).

This sprightly bird is the earliest harbinger of spring in our hill district, and though it breeds with us in August it is still earlier along the coast. Its little song, which is heard especially in the evening while winter is yet upon us, makes one look upon it as the "harbinger" of the joyous time when the denizens of "field and forest" are busy mating and nesting. There is no bird in this island which has such homelike notes as those which this little frequenter of rushes, saggs (*Xerotes longifolia*), and patchy undergrowth in the open, pours forth in the chilly month of August as it perches on the topmost twig of a leafless briar, the post of a fence, or any prominent branch of broom or gorse from which it desires to captivate its quiet-plumaged little mate. In so doing it suddenly emerges from vegetation near the ground, its normal resort, and, mounting as high in the shrub as it can get, begins at once its sweet little warble, which recalls in some of its clear though gentle notes the voice of the Lark and also the Yellow-Hammer of our English fields. It is fond of thus calling to its mate just before sunset when the breeding instinct first pervades it ; but later on, in September, it may be heard during the morning and afternoon trilling its nuptial song to its partner as she sits on her well-concealed nest.

In regard to the alteration of habits consequent on the colonisation of the country already alluded to, the case of the *Calamanthus* is perhaps more interesting than that of any other bird. In primeval days this "Wren" affected only the natural tussocky vegetation and patchy, ferny undergrowth typical of what we call "open bush." Much of this has disappeared through

cultivation, burning off, and clearing, but in some soils saggy growth is still provokingly persistent, though in moderation it has its merits in shelter for lambs in the spring. Where this favourite cover is removed the little Field-Wren has taken to that provided by introduced growth such as hedges of gorse, briar, broom, the thick rushy vegetation which establishes itself on the margins of ditches or along old fences. More interesting still is the abandonment of its shy nature, as shown when flushed from the original growth of the country. For, as an inhabitant of our lanes, hedges, and evergreen fences, it is by no means a timid species, and when affecting thoroughfares is to some extent a familiar roadside bird. Here it reminds one of the Hedge-Sparrow (*Accentor*) in England, although its wonderful agility as a ground bird is not possessed by the latter species. It is very fond, too, of old roadside fences, the base of which is lined with patchy undergrowth, out of which it will dart to a top-rail or post and then quickly disappear to a lower panel, darting to the ground and hopping with lightning speed along the further side of the fence to a clump of briar or rushes. Thus we have here an instance, in a small degree, of the evolution of new or abnormal habits, which have, in some instances, become so noteworthy in Australasia and New Zealand.

The nest of the Field-Wren is so artfully concealed that it is rarely found by the ordinary bird-nester who does not know the usual site and position of it. It is especially difficult to find when placed in sagg-tussocks (*Xerotes*). My son, Mr. R. W. Legge, found a nest a few years ago in the dead branches of a small prostrate briar bush, close to our high road, around which herbage had grown up, affording concealment. Not possessing any Tasmanian eggs of this species, I am unable to add to Mr. Campbell's testimony that the insular egg is larger than the mainland one, but it is very probable that our form may be slightly more robust than the Victorian and lays normally a larger egg.*

The breeding season here extends over a long period. This year a young bird was noticed in one of our lanes early in July. Usually the young are not about before the end of August or beginning of September on these uplands, but this is early, as newly fledged individuals are about this month (December). On the coast belts, where the bird much frequents the tussocky hollows and stretches among sand dunes, the breeding season appears to be mostly in the month of July.

When flushed among the natural vegetation of the sheep-runs the Bush Warbler rises at one's feet from among saggs or thatch-grass (*Poa cespitosa*) and suddenly alights, darting

* Mr. A. J. North has described the mainland form as *C. albiloris*. See *Victorian Naturalist*, vol. xix., p. 102 (1902).—EDS.

along the ground with extraordinarily agile hops, so that, however quickly one may rush up to its supposed position it is never to be found anywhere near it, and is flushed again with difficulty. It is in such localities much shier than among its aforementioned exotic shelters.

CRACTICUS CINEREUS (Grey Butcher-Bird).

This Butcher-Bird, which is a common species in the bush and along the east coast, has been mentioned above as frequenting the plantations here. Its spring visits are fairly regular, but occasionally it is absent. It is one of the earliest birds to call in the morning, and is more noisy than the Shrike-Thrush. Its cruel habit, similar to that of the true Butcher-Bird (*Lanius collaris*, Linn.), of "spitting" little birds on thorns, has been recorded in *The Emu* by the writer some years ago. It is an arrant robber, plundering Goldfinches' and other small birds' nests and killing the young. It nests with us in September and October, building in cypress and pine trees, sometimes in lofty situations in the latter tree. In the bush its nest may be found in the banksia or in the fork of a sapling gum. The nest, though loosely made externally, is cleverly put together, and neatly lined with fine rootlets, dry grass bents, and other similar material. The cup measures 4 inches in diameter, and the whole structure from 10 inches to a foot; clutch, three to four, the eggs olivaceous or greenish-grey, with softened down blotches and spots of brownish-red encircling the large end, which sometimes form an ill-defined band round it, while the smaller end is almost free from markings; dimensions, 1.3 inch x 0.9 inch.

Some years since a nest of this species was blown out of the fork of a lofty *Pinus insignis* with two young. It was found by my late daughter, the young lying near it, and placed by her in the fork of a small willow, where it was soon found by the parents, who fed the young in their new surroundings; but the following day the nest was found again on the ground, devoid of its tenants, which probably a marauding cat had disposed of.

It may be mentioned, as an instance of its predatory disposition, that my son not long ago observed one of these Butcher-Birds persistently pursuing an unfortunate Pardalote from tree to tree among the fir trees and clumps close to the homestead, and then across the fields to some distant fir clumps, with downright intent on securing it.

More About Herons.

BY A. H. E. MATTINGLEY, MELBOURNE.

WITH reluctance we once more packed up our baggage and started homewards. Paddling our heavily laden craft against a swiftly-flowing current, we at last reached home, thoroughly exhausted

after a lengthy day's battle. After several days' excursions to various swamps, studying their avine inhabitants, we depart for the metropolis, and reach once again the smoke and dust of Melbourne. Notwithstanding the trials of being companionless, except for mosquitoes, heat, and exhaustive work, I determined to revisit this locality again during my Christmas vacation to obtain one picture only—namely, that of the White Crane or Egret feeding its young. I had arranged by letter all the requisite details of my trip with some of the Mathoura residents, since I had but three days at my disposal and wished to crowd as much work into that time as possible. On my reaching Mathoura, however, the swampsman who had accompanied us before, and whose services had been retained for this trip also, was found inebriated, the result of too much "Christmas cheer." I was in a dilemma thereby, since unaided I would be unable to throw my rope ladder from the boat into the high eucalypts at the heronry, and the main object of my trip looked doomed to failure. Try where I would, I could not induce anyone to leave their Christmas festivities and fill themselves up with ornithology instead. However, next morning I unearthed an energetic, pushing—or, rather, paddling—man, locally known as "Wagga Jack," who agreed to accompany me to the heronry provided we returned home again that night. Perforce I accepted his terms, but I had some misgivings that we would not be able to accomplish my object. Without much ado we started in a heavy boat and paddled for all we were worth for about 12 miles to the heronry, the boat making splendid headway in response to our strenuous exertions, and my limbs fairly aching at the unusual exertion. As we rounded a bend in the river a solitary White-fronted Heron (*Notophoyx novæ-hollandieæ*), commonly known as the Blue Crane, was seen standing poised on one leg. A more apt definition of this bird is Blue Crane, since the name White-fronted Heron is certainly more applicable to the Pacific Heron (*Notophoyx pacifica*), whose plumage is white in front, and which is more readily discernible on account of its being made more prominent by the dark background of the balance of this Heron's plumage. The Blue Crane was balanced on one leg only, the other being drawn up under its body as if it were lame—a characteristic pose of the bird—whilst its whole appearance as it stood with its long neck and head bent back in the form of a crushed-in figure eight, was one of dejection, although it is the pose of satisfaction.

White Cranes, as the Egrets are commonly known, and Nankeen Night-Herons were also often disturbed as we swept by the shallows near the bank on which they were fishing for yabbies and shrimps, which, together with frogs, young fish, and small mammals, form their diet. The large amount of good the Herons do, especially the White-fronted Heron, is but seldom

recognised. Notice how they police the irrigation channels which supply water for agricultural purposes, and observe them catching the earth-boring crustacean—the yabbie—which does so much damage by drilling holes through the retaining bank and allowing the water to run to waste! Notice the vast numbers of grasshoppers these birds consume daily, thereby helping the irrigationist and pastoralist—and especially the latter, since these birds devour large numbers of land snails, which are the intermediate hosts of the liver fluke, a parasite that is so harmful to our sheep! The flukes attach themselves to the liver of the sheep, which gradually become emaciated and unfit for food, whilst their wool deteriorates and loses its value. The depredations of this obnoxious parasite cause untold losses to our squatters and pastoralists. If the statistics of the losses so caused were compiled, no doubt it would total several millions of pounds sterling. Without their host the flukes cannot multiply, since they need the interior of the living snails to successfully hatch their young. As the Heron tribe disposes of myriads of these snails annually, the great amount of good done thereby would, no doubt, represent the annual value of over a million pounds sterling. It is not mere sentiment that prompts one to protect the Heron tribe. It is these birds' solid worth that calls us to wave the banner of protection before the community and ask for an intelligent investigation of the value that our feathered friends are to us, and how deeply they are wrapped up with our domestic economy.

When disturbed the birds rose from the shallows and flew clumsily away with their customary ungainly flight. After dint of paddling we at last reached the home of the Nankeen Night-Herons. Hundreds of birds were seen feeding their young ones. What an enrapturing sight it was to see these chestnut-coloured birds coming to and going from their nests, their two or three long white nuchal plumes, with which, no doubt, they woo one another, gracefully bending from their napes and contrasting agreeably with their black crest and nankeen back plumage. Unfortunately there was no time to devote to waiting for the old birds to get accustomed to the camera being in close proximity to their nests, so that I could photograph them feeding their progeny. All that could be accomplished in the time at my disposal was to climb up and photograph the young in the nest. The young Herons were observed using their featherless wings to assist them in maintaining their position in the nest, and it was a remarkable sight to observe how these fledglings grasped the rude flat platform (which at this time of their existence is but an apology for a nest, and has no retaining concavity or edge), with their feet, and how tenaciously they clung to it, both with their powerful toes and naked wings. After several snapshots had been taken of these interesting



Nests of Night-Heron (*Nycticorax caledonicus*), Eggs, and Young.

FROM A PHOTO. BY A. H. E. MATTINGLEY.

birds, we paddled off to the home of the White Egrets. *En route* I managed to creep on to some fully-grown young Nankeen Herons that had just left the nest for their first outing, and I obtained a picture of them as they perched on the limb of a fallen tree, awaiting the dainty morsels of food which their parents brought them from time to time, and which they besought their offspring to take from them, encouraging them to do so with a chuckling, purring expression of parental affection. Some of the larger eucalypts contained as many as 9 or 10 nests of these birds, and as we paddled under these trees the young birds, in their excitement at being disturbed, rained down on us a heterogeneous supply of extraneous matter in which yabbies and frogs were in predominance.

Stray Feathers.

A RARE MALURUS.—It may interest you to know that I found the Purple-crowned Wren (*Malurus coronatus*) very numerous on the small rivers between Turkey Creek Telegraph Station and Wyndham. This is a rare bird on the Fitzroy.—J. P. ROGERS. Fremantle, W.A., 20/11/07.

* * *

BROWN KINGFISHER AND SNAKE.—Whilst on official duty at Brandy Creek, in the Buln Buln district, Gippsland, one morning last summer I experienced a pleasure which I had long looked for. I noticed a Laughing Jackass perched on a stump about 12 feet high. He was looking very serious, and turning his head from side to side. Suddenly he made a dive into a patch of bracken, and about two seconds later rose in the air with a snake between 2 feet 6 inches and 3 feet in length. He held it by the head and tail, and in its contortions it was forming the figure 8. The bird flew to a limb on a tree about 40 feet high without much effort. Unfortunately, owing to my having to catch a train at Warragul, which I heard whistling out of Drouin, I could not wait to see how the Jackass despatched his prey.—M. C. LECKIE, Inspector of Board of Public Health, Melbourne.

* * *

“A KEY TO THE BIRDS OF AUSTRALIA.”—Referring to Mr. T. Carter’s criticism in the last issue,* Mr. Robert Hall intended no courtesy in holding over publication of the suggestions of Mr. Carter, meaning that they should in twelve months’ time form the basis of a supplement to the distribution in areas 9, 8, 1, as collectors were in the field. The supplement is as under, being mainly from the published report of Dr. Ernst Hartert,

* *Zmu*, vii., p. 99.

Novit. Zool., 1905; by Mr. Collingwood Ingram, *Ibis*, July, 1907; by Mr. Carter, *Emu* (last issue), partly a repeat of *Novit. Zool.*, 1905; and by Mr. Hall himself, in *Emu*, through collections made by Mr. J. P. Rogers. Certain of these are now on record for the first time. With regard to Mr. Carter's correction of "black pectoral collar" in *Pachycephala gilberti* (Gould), the error appears in the Brit. Mus. Cat. Birds, vol. viii., p. 184, and, unfortunately, found its way into the "Key," remaining uncorrected till Mr. Carter observed it. Mr. Carter's list showed 56 species in areas 9 and 8, thus totalling 132 species in areas 9, 8, 1 (31 species appearing in area 1).

Species.	Areas.	Species.	Areas.	Species.	Areas.
4	9	373	8	609	9, 8 (N.W. Cape)
8	1	375	1	610	9
13	8	381	... N.W. Cape	611	9, 8
16	1	388	... N.W. Cape	612	9, 8
18A	9 (not 8)	389	8, 1	614	8
22	1	390	1	615	1
26	1	393	8	620	1
36	8	394	8, 1	621	8
40	8	404	9, 1	622	8
44	9	408	8	628	9, 8
44A	8	409	8	640	9, 8 (N.W. Cape)
67	8	422	8	643	9, 8 (N.W. Cape)
75	8	429	8	644	9, 8
80	8	430	8, 9	645	8, 1
81	9	437	9	646	9, 8 (N.W. Cape)
89	1	438	8	647	8
93	1	441	8, 1	648	9
104	8	449	9	650	8
112A	8	453	... 9, 8 (N.W. Cape)	652	9
122	9, 1	488	9	655	8
126	9	492	9	659	8
133	1	505	8	703	9
139	1	507	... 2 or 3	704	9
141	8	521	9	705	9
180	8 (N.W. Cape)	533	8	706	8, 1
195	8 (N.W. Cape)	546	9	716	9, 8
214	9	547	... 9, 8 (N.W. Cape)	717	9
229	9	550	8	718	9, 8
230	9	552	9	720	9
236	8	557	8	725	1
237	1	558	9	727	1
242	8, 9	560	9	728	1
247A	1	562	9	729	9, 8
255	1	572	8	731	8
264	8, 9	574	9	733	8
289	8	579	8	735	9, 8
295	8	595	1	736	... 9, 8 (N.W. Cape)
296	8	596	... 9, 8	739	9
305	8, 9	598	... 9, 1	745	9
318	1	599	1	755	9
319	8	602	8	759	1
345	1	603	9	760	1
347	1, 8, 9	607	... 9, 8 (N.W. Cape)	761	1
367	1	608	... 9, 8 (N.W. Cape)	764	8

I use this opportunity to include in the "Key," area 5, the following species:—29, 67, 183, 235, 265, 392, 463—to be marked as resident or visiting birds I do not know. Evidently I quite overlooked including 265, as recorded in Colonel Legge's list.

The following may be marked as having been observed in areas 2, 3, 4, 6, while further additions will be noted in Mr. North's work, now in the press. Certain of these records were the observations of Mr. S. W. Jackson, communicated to me, the bulk of the remainder having already appeared in *The Emu*. There still remain other records to be collected.

Species.	Areas.	Species.	Areas.	Species.	Areas.
51	2	286	6	463	4
52	3	296	2	487	6
65	3	307	6	525	6
102	4	348	4	527	4
113	3	353	6	597	6
117	6	354	6	616	6
156	3	358	3	644	6
160	6	365	6	651	6
186	6	375	3	754	6
205	6	412	6		

Certain of the birds, under varying climatic conditions, change for a time their stations, and in the droughty spring of this year we have much evidence of it. The eruption of species from the dry areas into the coastal areas may well be recorded, but for irregular rather than permanent residence.—ROBERT HALL.
10/10/07.

* * *

QUEER NESTING PLACES.—Three weeks ago, while driving into the outskirts of Stawell, a town of 6,000 inhabitants, a little Black-fronted Dottrel (*Ægialitis nigrifrons*) was seen to rise from some pebbles and run off. A clutch of three eggs was found placed on the hard stones not 2 feet away from the wheel track, where scores of vehicles passed daily. In fact, the rubble had been put by roadmenders into a rut, but passing drivers, as is often the case, avoided it. Whether the daring little bird will successfully rear a family in such surroundings is hard to say. A much more suitable nesting place could be found along the margin of a small lake in the public gardens not many yards away. The same day, while visiting a farmhouse, I was surprised to hear a Brown Tree-creepers (*Climacteris scandens*) scramble up the hessian lining of a room and out through a hole in the outside wall. It had a nest in the bottom corner containing several young ones.—A. G. CAMPBELL. Pomonal, near Stawell, 12/12/07.

* * *

SCONE (N.S.W.) NOTES.—On the 9th October I took three slightly incubated eggs of the Butcher-Bird (*Cracticus destructor*) from a nest in a small yellow box tree, 20 feet from ground;

on the 14th November I noticed a pair of fresh eggs of the Bronze-wing Pigeon (*Phaps chalcoptera*) in the same nest. On the 10th October I took one fresh egg of the Goshawk (*Astur approximans*) ; on the 15th November I took one heavily incubated egg and one addled egg of same bird from the same nest. The White-browed (*Artamus superciliosus*) and Masked (*Artamus personatus*) Wood-Swallows are now visiting us in thousands, and placing their nests in all sorts of curious places. The Dollar-Bird (*Eurystomus australis*), usually very plentiful here in summer, is very scarce this season ; I know of one pair only in the vicinity. Friar-Birds or Leatherheads (*Philemon corniculatus*) are breeding very freely : the same applies to the Pied Crow-Shrike (*Strepera graculina*). I never knew *Ephthianura albifrons* so plentiful before ; they have been breeding since June. I saw one full clutch of four eggs. I have seen one only *Scythrops novæ-hollandiæ* this season ; this bird is usually plentiful here. On the 18th September, at Belltrees, found an egg of the Black-eared Cuckoo (*Misocelius palliolatus*) in the nest of the Little Field-Wren (*Chthonicola sagittata*) along with a pair of eggs of the last-named bird.—H. L. WHITE. 17/11/07.

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LAUNCESTON (TASMANIA) NOTES.—While returning from a long ramble down the banks of the Tamar, at the end of October, I was fortunate enough to come upon a small party of five Sandpipers or Sharp-tailed Stints (*Heteropygia acuminata*), feeding quietly upon a little mud-bank at the edge of a swamp. They were by no means wild, and allowed me to approach within a few yards before taking wing with their plaintive cry. This was within a mile of Launceston Post-Office, which is unusually close to town for these long-distance migrants to appear. The same afternoon I heard great numbers of Grass-Birds (*Megalurus gramineus*) uttering their weird little calls, and saw one or two. This interesting little bird, although shy in the sense of keeping itself out of sight, yet does not at all object to the proximity of human beings, so long as there is cover for concealment. One is calling frequently in a thin patch of reeds close to the Tamar ferry, just opposite the wharf, and with people passing to and fro within a few yards ; there are dozens in the reeds alongside a footpath which caps the embankment. I have frequently brought them up almost to my feet by imitating their call, and then have not been able to see them, owing to the thick growth of reeds. The call is usually a plaintive double whistle, but some individuals use three or even four notes instead of the usual two.

The Reed-Warblers (*Acrocephalus australis*) were much in evidence that same day, flying excitedly from the dense growth of the riverside into the wattle trees, then chasing each other

from the trees back into the reeds. I noticed they have a harsh, somewhat guttural call note, not unlike one occasionally employed by the Crescent Honey-eater when a cat or other enemy is in the vicinity. The beautiful Canary-like song of this waterside dweller was heard unusually early this spring; when Mr. Thompson and myself were crossing the North Esk on 22nd September on our way to the bush, one of these songsters was heard in the dry reeds of last season close to the Butts Bridge; usually we do not notice them until well on in October, and they do not nest here until November. Like the Grass-Bird, they have no objection to the proximity of our species provided there is cover, and their rich warble may be heard close to the railway sheds, with trains passing and repassing, and the dense engine smoke flying over their haunts.
—H. STUART DOVE.

From Magazines, &c.

“A TRIP TO MOUNT ARTHUR” is a pleasant account of a nature study outing undertaken by Messrs. H. Stuart Dove, F.Z.S., and H. C. Thompson, A.O.U., to the Lilydale district of Tasmania, where a number of birds was noted. The notes are published in *The Examiner* (Launceston), 19/11/07.

* * *

BIRDS OF SPENCER GULF.—Mr. J. W. Mellor, one of the vice-presidents of the A.O.U., has contributed to *The Evening Journal*, Adelaide (18/5/07), a popular account of the birds he noted on the islands about the Gulf during an excursion by members of the Australasian Association for the Advancement of Science, January, 1907.

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BIRDS OF BOROONDARA.—Under the title of “Some Birds of Hawthorn District,” Mr. C. F. Cole, A.O.U., has contributed a short but interesting article to *The Victorian Naturalist* (vol. xxiv., No. 5). Having been born and reared in the district, besides being a close observer of bird-life, Mr. Cole’s records, especially “old-time memories” are valuable.

* * *

PARTRIDGE-PIGEONS.—In *The Avicultural Magazine* (vol. v., No. 10, New Series), Mr. D. Seth-Smith, F.Z.S., contributes aviary observations on the two species of “Squatter Pigeons” forming the genus *Geophaps*. Because of their terrestrial and other habits, Mr. Seth-Smith does not agree with any attempt to separate these birds from their natural order Columbæ.

"THE TASMANIAN NATURALIST."—The Tasmanian Field Naturalists' Club is to be commended in starting a journal of its own. Part No. 2 of vol. i. contains an account of a camp-out of the Club on Bruni Island, Easter, 1906. Several birds seen during the trip are enumerated. "Tasmanian Quail and Game Propagation (with Illustrations)" is a short article by Mr. A. R. Reid, A.O.U., in which he advocated the rearing and better protection of Quail. Mr. Reid's suggestions are practical.

* * *

"FEATHERED IMMIGRANTS" is the title of a Bulletin (No. 16) issued by Department of Agriculture, New Zealand, and compiled by Mr. James Drummond. It contains evidence for and against introduced birds to the Dominion of New Zealand, together with "Notes on the Native Avifauna." It is deplorable to read some of the causes assigned for the disappearance of the native birds: "Destruction of bush," "poisoned grain, stoats, weasels, and guns," "shooting and lack of protection," "indiscriminate shooting," "cats," "sportsmen," "settlement and introduced birds," "all nesting places being occupied by introduced birds," "constant use of the gun," "shooting out of season," "shooting out of season by the Maoris," "allowing boys to carry guns," "Cockney sportsmen," "'kill-in-any-position' shooter," "burning of the bush, wilful destruction of eggs by boys, ravages of cats, and slaughter of waterfowl on the first days of the shooting season," &c., &c.

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PLATYERCUS ADELAIDÆ IN ENGLAND.—The Adelaide Rosellas are not unlike immature Pennants (*P. elegans*) just finishing the moult and not in full plumage. Mr. W. R. Fasey once bought a pair of immature Pennants which the dealer at the time declared were "Adelaides."

The "Adelaides" were given an aviary in which only two other small birds resided—a pair of Parrot-Finches—and he had nothing of interest to relate for a few weeks till he saw that they were nesting, and finally four young ones left the nest and flew about. Their markings were like those of their parents excepting that the ground colour was of a more greenish shade. Mr. Fasey considers the red marks quite as distinct as the parents'.

Mr. Fasey's other birds nested very freely this year, and he had quite a number of young ones. One interesting Parrakeet was a hybrid whose parents were a hen Princess of Wales Parrakeet and a male Rock-Pebbler, and he hopes soon to rear some young Blue-banded Grass-Parrakeets.—*Avicultural Magazine*, New Series, vol. v., No. 11.

NATIONAL PARKS.—“Fauna and Flora Reserves in Australasia” was the subject of a thoughtful lecture by Mr. Bernard H. Woodward, F.C.S., delivered before the Western Australian Natural History Society on 29th May, 1907. Mr. Woodward’s remarks are chiefly in substance the historical enactments in the respective States regarding national reserves, and will serve a good end by directly keeping the cause of bird protection to the fore. But if we are to have proper bird preserves or reserves we must undoubtedly have those preserves also properly protected by paid wardens, as in America. Anent this matter, an influential deputation* is about to wait on the Hon. the Minister of Lands, Victoria, regarding the reservation of Wilson Promontory. The bulk of the Promontory has been reserved, but a $\frac{1}{2}$ -mile foreshore surrounding the park has only been temporarily reserved. The deputation intends to seek favourable consideration—(1) that the whole be reserved for all time, and (2) that a paid ranger be put in charge. A ranger is an absolute necessity, because, even since the locality has been “proclaimed,” it is an open secret that ‘possum poachers (in close season) and timber fellers have been at their destroying work.

* * *

NATIVE BIRDS PROTECTION ASSOCIATION.—A meeting of the Central Queensland Native Birds Protection Association was held at the Belmore Arms Hotel on Thursday week. It was decided to engage a ranger to put a stop to illegal shooting, and bring before the courts those found guilty of such an act. As this will mean considerable expense, the secretary was directed to make a vigorous effort to get in subscriptions. It was remarked that if members had their own interests at heart there should be no difficulty in getting in the money, as it is acknowledged that before the formation of the association there was practically no close season, and were the association to become defunct, the same state of things would prevail again, in which case there would, in a very short time, be no such thing as a game bird in the district. A great many persons, it was also stated, reaped the benefit of the efforts of the association to give the birds six months for breeding by getting six months’ good sport, and yet they would not join the association. Probably the fact that last season was a particularly bad one from a sportsman’s point of view had a good deal to do with the

* Consisting of delegates from the National Museum, Australian Natives’ Association, Royal Society, Royal Geographical Society, Field Naturalists’ Club, Zoological and Acclimatisation Society, Piscatorial Council, and Australasian Ornithologists’ Union. The Minister, who was sympathetic, has been interviewed. He promised to recommend a paid ranger, but was of opinion that the “temporary reserve” of the $\frac{1}{2}$ -mile foreshore would have to stand. However, the deputation’s object would be attained if shooting and hunting were not permitted within the $\frac{1}{2}$ -mile limit, as it is in the National Park proper.

apathy displayed. At the same time, a majority of the members deprecated the evident belief of some connected with the association that its principal duty was to find shooting for them—a misunderstanding which might be harmful. The object of the association, it was pointed out, was to enforce a strict observance of the close season and so give birds of all species which were protected a chance to breed and ensure themselves against extermination.—*Morning Bulletin* (Rockhampton), 15/11/07.

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MALLEE (VICTORIA) NOTES.—“Nature Notes” in *The Argus*, 6/9/07, records the following interesting field observations by “Mallee Bird” (Mr. Chas. M’Lennan):—

“Quails Nesting.—A friend of mine has just come in from the ‘Sunset’ country, which is situate some 50 odd miles north-west of Pine Plains, and he informed me that Quails—no doubt the Brown and the Little Swift-flying, for I saw them there myself about six weeks ago—are now nesting in vast numbers all over the plain.

“All the Cuckoos—Pallid, Fan-tailed, Bronze, and Black-eared—arrived here this month (August). The Kestrel and White-shouldered Lalage also came. I saw on the ground a splendid flock of Black-faced Grauculus the other day. There must have been fully 300 of them. These are useful birds, for they were feeding upon caterpillars or grubs, which now are rather numerous among the green herbage. My enemies, the Crows and Ravens, do a lot of good in this respect, for they are now to be seen in dozens feeding upon some of the pests.

“Crows and Plover.—I was an eye-witness the other day to a Black-breasted Plover defending its nest, containing four eggs, against the attack of two Crows. The Crows seemed determined to obtain possession of the eggs. While the Plover fought in a most desperate manner with one of the Crows, the other snapped up an egg and made good its escape to enjoy its prize. A bullet from my rifle settled matters as far as the other Crow was concerned. These black rascals destroy a lot of eggs of Plovers and other birds.

“Chestnut-backed Thrush (*Cinclosoma castanonotum*).—I have been watching the antics or habits of the Chestnut-backed Thrush a lot of late, and have seen a good many of the birds in my rambles. These birds do not associate with any other of the feathered tribe. They live for the most part in couples, which presumably pair for life, subsisting upon the insects and other food to be found in the vicinity of their favourite haunts—the low shrubs and undergrowths in the arid regions of the Mallee. Being of a rather shy nature, they do not wander far from the same neighbourhood. The characteristic feature of these birds is the peculiar graceful motion they have of moving

their heads and necks backwards and forwards when standing on the watch. The nest is always built on the ground, near the butt of a mallee bush or under some low shrub. The clutch is from one to three. When flushed, the bird flies but a short distance, and again settles. It resembles in some of its habits the Scrub-Robin (*Drymaeædus brunneopygius*)."

* * *

THE CUCKOO.—Mr. Gordon Dalgleish, a well-known British observer, contributes to the October number of *The Avicultural Magazine* some interesting notes on the Cuckoo (*Cuculus canorus*). The author claims no originality for his notes, nevertheless he records certain observations which appear to add something to our knowledge of these "birds of mystery" as regards their parasitic habits. The question whether instinct or reason is responsible for the Cuckoo's practice of laying her eggs in the nests of other birds is treated with caution by the author, but he says:—"That a bird should save itself the trouble of catering for and looking after a family is, I think, sufficient proof of cunning and deep thought, and not want of intellect." Mr. Dalgleish also believes that Cuckoos are guilty of eating the eggs of other birds. He states that he once saw an Indian Cuckoo (*Eudynamis honorata*) rob a Dove's nest, and fly off with the egg in its bill, hotly pursued by the owner. Referring to the Cuckoo's power of matching its eggs with those of the different birds selected as foster-parents, the author gives instances which have come under his own notice, and quotes from *The Countryside* (vol. iii., No. 68) a letter written by Mr. Gillett Cory, who states, *inter alia*, that he has examined sixteen nests, each containing a Cuckoo's egg of different species of birds with their respective clutches of eggs. In every case the Cuckoo's egg could scarcely be distinguished from those of the intended foster-parent, even the most delicate markings being closely imitated. Mr. Dalgleish raises an interesting point—"Does the male Cuckoo first find the nest in which the female is to place her egg?" He answers the question in the affirmative, but more confirmation is required than the evidence he adduces before any definite conclusion can be arrived at. The writer states, again, that there is one instance on record (*Ibis*, 1889, p. 219) of the European Cuckoo hatching its own eggs, and he thinks it probable that at times young Cuckoos, after leaving the nest, are tended by the true mother or other Cuckoos. This opens a wide field for investigation, and Australian observers should lose no opportunity of gathering evidence in support or otherwise of the theory. Returning to the question of protective resemblance in the eggs, Mr. Dalgleish concludes that one of the possible reasons for the dissimilarity that sometimes exists between eggs of a Cuckoo and foster-parents is that the Cuckoo has only at a comparatively recent period realised the importance of matching its eggs with those of its victims.

Reviews.

[“How to Sex Cage Birds (British and Foreign).” By Arthur C. Butler, Ph.D., F.L.S., F.Z.S., M.B.O.U., &c., &c. With over fifty illustrations and four coloured plates. *The Feathered World. Canary and Cage-Bird Life.* 9 Arundel-street, Strand, London, N.C.]

DR. BUTLER has added another important work to his already long list of useful books, most of which are familiar to Australians. “How to Sex Cage Birds” will not only be of value to the aviculturists, but also to ornithologists, both field and cabinet. The author’s own appreciation of his work is modestly put thus:—

“The object of the present work is to enable owners of birds to decide to what sex they belong, and I hope that the labour which I have expended upon the study of external sexual differences, embodied in the ensuing chapters, will prove useful not only to the student of birds in captivity, but of cabinet specimens. Primarily, I naturally offer it as a sort of *vade mecum* for the use of aviculturists, and should it only be of assistance to them, I shall feel amply repaid for the time and trouble which I have expended in its production.”

The present work treats of over 900 species of birds, many of which are Australian—notably Cockatoos, Parrakeets, and Finches. However, Dr. Butler’s remarks are brief in connection with the Pink or Leadbeater Cockatoo (*Cacatua leadbeateri*). He will find, in nature, that the male bird has a black eye, while that of the female is brownish. In the Rose Cockatoo or Galah (*C. roseicapilla*) the male also has a black eye, but in the female it is of a pearl-like colour. With reference to the Indian Banded Parrakeet (*Palaeornis fasciata*), Australian aviculturists who have kept the bird are of opinion that both sexes, when mature, possess red bills. The bill is dark in young birds, and commences to turn red with the first moult.

Among the illustrations is a taxidermist’s group of Laughing Jackasses (*Dacelo gigas*) from a photograph by Messrs. Kerry, Sydney. Price 3s. 6d.

[“From Range to Sea: a Bird Lover’s Ways.” By Charles Barrett. T. C. Lothian, Melbourne.]

THIS “Christmas pamphlet” includes a preface by Mr. Donald Macdonald and many photo.-pictures from nature by Mr. A. H. E. Mattingley. Mr. Barrett (who, by the way, is a member of the A.O.U.) is to be heartily congratulated on his maiden effort at publishing nature notes. Judging simply by this booklet, Mr. Barrett has a great future before him as a nature observer and writer. The publishing price of “From Range to Sea” is one shilling.

Correspondence.

SYNÆCUS AUSTRALIS IN NEW ZEALAND.

To the Editors of "The Emu."

SIRS,—Under this heading, on pp. 104, 105 of the last number of *The Emu* appears a note to the effect that Mr. D. Seth-Smith, in *The Avicultural Magazine*, has discovered that this bird is not uncommon in the North Island of New Zealand.

The note in *The Emu* commenting upon this asks the following questions:—"Have cage birds been taken to and liberated in New Zealand, or have wild birds emigrated across the Tasman Sea?"

Synæcus australis was introduced by the settlers, but when and where I can't trace, as no records of the earliest efforts at acclimatisation were kept. However, in 1871, when Captain Hutton published his "Birds of New Zealand," he included a "List of Birds Introduced by Settlers." In this list (p. 66) there appears—"Coturnix australis, Lath. All the provinces. From Tasmania."

Later, when treating of the supposed survival of the New Zealand Quail upon the Three Kings, the late Sir Walter Buller wrote (*Trans. N.Z. Inst.*, vol. xxiv., p. 1,891 (1892)) :—"But of *Synæcus australis*, the Brown Quail of Australia, which has been introduced into New Zealand, and is now extremely plentiful in all parts of the country."

On p. 348 of the "Index Faunæ Novæ-Zealandiæ" (1904) appears *Synæcus australis*, Lathraides (Swamp Quail), Australia. This is in an Appendix, the title of which is "List of Naturalised Animals," the explanation of which reads:—"This list includes those animals which have been introduced, either intentionally or unintentionally, by human agencies, and have become so well established that they may be considered as part of the fauna."

I have collated these three references simply to show that to New Zealand students the occurrence of *Synæcus australis* is a well-known fact, and has been for nearly forty years. That it should be termed "an interesting discovery," and be worth recording by Australians, seems to me surprising.—I am, &c.,

TOM IREDALE.

Christchurch, N.Z., 1st Nov., 1907.

P.S.—Since writing the above the "Transactions of the N.Z. Institute for 1906" has been received. On p. 508 the dates of introduction of birds now acclimatised are given, and for the bird under notice read:—"Auckland, 1867; Christchurch, 1866; Green Island, near Dunedin, 1868 and 1870."—T.I.

To the Editors of "The Emu."

SIRS,—In the last number of *The Emu* (page 104, vol. vii.), you ask—"Have cage birds (of *Synæcus australis*) been taken to and liberated in New Zealand, or have wild birds emigrated?" On page 127 of *The Ibis* for January, 1893, occurs the following sentence:—"It is very unsatisfactory to learn that the supposed bevies of the New Zealand Quail (*Coturnix novæ-zealandiæ*) asserted to have been recently met with in the Three Kings Islands (cf. Birds N.Z., i., p. 228, footnote), turn out to belong to the Brown Quail (*Synæcus australis*), introduced from Australia, and that the native species is undoubtedly extinct."—I am, &c.,

TOM CARTER.

Broome Hill (W.A.), 28th Oct., 1907.

Bird Observers' Club.

THE September meeting of the Club was held at the residence of Dr. H. W. Bryant, Toorak. There were present Messrs. Cole, Campbell, Chandler, Howe, Mattingley, Ross, Barrett, Nicholls, and Surgeon-General Williams. Apologies were received from Messrs. G. Shepherd, R. Hall, Spowers, Batey, and Dr. Horne. The subject for discussion was "Cuckoos." Mr. Christian, of Raywood, forwarded some field notes, and Mr. Batey, of Drouin (Vic.), contributed a paper. Can Cuckoos time the extrusion of the egg? was an interesting point raised by Mr. Mattingley. Mr. Cole exhibited a young Cuckoo (*C. pallidus*) reared in nest of White-plumed Honey-eater (*Ptilotis penicillata*). Skins of *Drymaædus brunneipygia*, *Pardalotus xanthopygus*, *P. ornatus*, *Malurus melanotus*, *Pachycephala gilberti*, and *Cinclosoma rufescens* were exhibited by Messrs. Mattingley, Ross, and Howe, obtained by them in the Mallee scrubs. Dr. Bryant exhibited many beautiful forms of aquatic birds. Mr. J. N. Tregallas was elected a member, on the motion of Mr. J. A. Ross, seconded by Mr. A. J. Campbell. It was resolved that the hon. secretary write congratulating Mr. Robert Hall on his obtaining the curatorship to the Hobart Museum. After supper a hearty vote of thanks to the host terminated a pleasant and interesting meeting.

On 16th October the Club met at the residence of Surgeon-General Williams, when fourteen members were present. Apologies were received from Messrs. Campbell, Christian, Batey, Barrett, and Nicholls. The host was voted to the chair. The subject for discussion was "Heros." Two country members (Messrs. Batey and Christian) sent notes. Mr. Cole exhibited three mounted specimens of the Night-Heron (*Nycticorax caledonicus*)—two in immature plumage, and one adult male in beautiful feather. Mr. Mattingley exhibited a clutch of four eggs of the Plumed Egret (*Mesophoyx plumiferi*). This bird is apparently rare, and he and Mr. Ross share the honour of taking the first authentic clutch. Surgeon-General Williams exhibited many beautiful forms too numerous to individualise here, but one case, containing Night-Heros, White-fronted and Pacific Herons, White and Plumed Egrets, and Bitterns, was specially admired by the visiting members. After supper the host took members through his well-appointed rooms, and delighted them with his many fine curios, works of art, native implements, &c.

The quarterly dinner of the Club was held at the Mia-Mia Tea Rooms, Collins-street, Melbourne, 20th November. There were present Messrs.

Campbell, Hall, Ross, Mattingley, Dr. Bryant, Wilson, Leach, Williams, Thompson, Barrett, Nicholls, Hamilton, Mellor (Adelaide), Cole, Chandler, Tregallas, and Howe (hon. secretary). After dinner a number of visitors arrived. Mr. Campbell was elected to fill the chair. Apologies were received from Messrs. Godfrey, Shepherd, and Macdonald. The chairman read a letter from Mr. Le Souëf, who was then in London. Mr. Le Souëf was present as a guest at a meeting of the British Ornithologists' Club, where he met Mr. C. F. Belcher, another member. Besides doing other good work, Mr. Le Souëf was instrumental in unearthing two skins of the extinct Tasmanian Emu at the British Museum. The find has delighted the authorities as well as Mr. Le Souëf. The bird was distinct from the mainland form of Emu. The chairman, in welcoming Mr. Mellor, as guest, paid high tribute to his zeal in matters pertaining to ornithology. Mr. Mellor, in responding, earnestly urged members to do their utmost for the preservation of our avifauna, which was being ruthlessly destroyed everywhere. Mr. J. A. Ross read a paper entitled "A Trip to the Mallee." The journey was taken by himself, Mr. Mattingley, and the hon. secretary during September. The paper was well received, and was beautifully illustrated by photographs taken by Mr. Mattingley. Many of the pictures depicted Mr. Charles M'Lennan (well known to bird lovers by his contributions as "Mallee Bird"), who acted as guide to the party. Dr. Bryant moved a vote of thanks to Mr. Ross, who gracefully replied in a few well-chosen words.

The ordinary (December) meeting of the Club was held at the Thistle Luncheon Rooms, Elizabeth-street, Melbourne. At the invitation of Mr. Robert Hall, there were present Messrs. F. P. and R. P. Godfrey, Campbell, Ross, Mattingley, Leach, Barrett, Nicholls, Chandler, Cole, Thompson, Tregallas, and Howe. Apologies were received from Messrs. Shepherd, Christian, and Batey, and papers were received from the two last-named gentlemen. The exhibits were plentiful and varied, Mr. Ross showing combination (Cuckoo) clutches—*Rhipidura albiscapa* with *C. flabelliformis*, and *Pycnoptilus floccosus* with *C. variolosus* (?). He also exhibited a nest of *Pycnoptilus* taken in sword-grass (*Lepidosperma*). Mr. Cole's exhibits were adults and young of *Cincloramphus rufescens* and a nest of *Ptilotis penicillata* showing egg of *Cacomantis pallidus* woven into the bottom, and merely held by a few grasses. Mr. F. P. Godfrey showed the rare egg of *Orthonyx spaldingi*. Mr. Hall, with the aid of a map, greatly instructed members by taking them in thought over the ground explored by himself and Mr. Trebilcock (of Geelong) in Siberia. He also dealt with the distribution of birds, and mentioned many interesting species that were not familiar to most of his audience. After supper was served, Mr. Campbell made reference to the loss the Club would sustain by the enforced absence of Mr. Hall, and wished that gentleman every success in his new sphere in Tasmania. Mr. Hall, in responding, wished members the "compliments of the season," and hoped that, although he was out of sight, he would not be out of mind of the members of the B.O.C.

South Australian Ornithological Association.

THE ordinary meeting of this association was held at Dr. A. M. Morgan's residence, Angas-street, Adelaide, on Thursday evening, 5th September. Dr. Morgan presided. There was a good attendance. The secretary read a letter from the Secretary to the Commissioner of Crown Lands, in reply to a communication from the association, having reference to shooting on the powder magazine reserve, contrary to notices placed on all sides of the enclosure. No offenders had yet been brought to book, and it was urged that the authorities should be asked to reserve this land for totally

protecting bird-life, and keep watchful eyes in order to have the provisions of the *Birds Protection Act* carried out. The protection of the Nankeen Kestrel was discussed, and thought advisable, owing to its useful habits in killing mice and other vermin, while the imported Goldfinch and Blackbird were now so numerous and harmful that they should be totally unprotected. A large number of exhibits was shown to illustrate and compare notes and observations taken by members upon the genus *Ptilotis*. Mr. A. H. C. Zietz, F.L.S., and Mr. E. Ashby showed specimens from various parts of Australasia, and included rare species of this honey-eating family of birds. Mr. F. R. Zietz and Dr. Angove also showed stuffed birds—the former three species of Field-Wrens (*Calamanthus*), and the latter the smallest Emu-Wren (*Stipiturus ruficeps*), from Western Australia. Dr. A. M. Morgan and Mr. R. Crompton exhibited birds' eggs, Dr. Morgan's contributions consisting of those of the Great Bower-Bird and the Koel. Mr. J. W. Mellor exhibited Acanthizas from Tasmania, including the Brown-tailed and Ewing Tits and an albino of the latter. Mr. A. H. C. Zietz reported having received two Emu eggs from Melville Island, the first that had been procured in that locality.

The late Professor Alfred Newton.

IN connection with the notice of the late Professor Newton in the last issue of this journal (p. 113), it was thought that members of the A.O.U. would approve of a likeness of the deceased ornithologist, therefore one is herewith given (plate xii.) reproduced from the October number of *British Birds*. Besides for his great attainments, the late Professor was held in affectionate friendship by many of his correspondents, the same as was the late beloved Baron von Mueller.

Notes and Notices.

OOLOGY.—Mr. H. L. White, A.O.U., Belltrees, Scone, New South Wales, desires to purchase certain rare Australian birds' eggs. None but well-authenticated full clutches will be considered. Reference, Mr. A. Mattingley, hon. secretary A.O.U.

THE SAN FRANCISCO EARTHQUAKE.—The hon. secretary of the A.O.U. has received the following letter from Leverett Mills Loomis, Director of the California Academy of Sciences:—"At a meeting of the California Academy of Sciences held 5th August, 1907, the following resolution was unanimously adopted:—'Resolved that the thanks of the California Academy of Sciences be tendered to the Council of the Australasian Ornithologists' Union for its generous contribution of *The Emu* to the library of the Academy. Coming to us as it does in the hour of our disaster, it has given us renewed hope and courage.'"



Meyers Phot.

British Bird
Vol. I PL4

Alfred Newton

Born June 8 1829 Died June 7 1907

The late Professor Alfred Newton, F.R.S., of Cambridge, England.

MRS. F. H. HUTCHINSON (Drouin) writes:—"I have just received my copy of *The Emu*, containing Mr. Mattingley's splendid photographs of the Egrets' nests on the Murray. Would it not be possible to have them published in *The Australasian*, so as to arouse the interest and sympathy of the general public to the cruel slaughter of the birds and starvation of the unfortunate nestlings? I am sure anyone with a spark of humanity would be roused to indignation by those photographs. Comparatively few persons see *The Emu*, and they are all more or less interested in birds, whereas *The Australasian* is so widely circulated."

A CLASSICAL WORK BY THE PRESIDENT OF THE BRITISH ORNITHOLOGISTS' UNION.—"A Monograph of the Petrels (Order Tubinares)," by F. Du Cane Godman, D.C.L., F.R.S. All the known species of Petrels, Shearwaters, and Albatrosses will be fully dealt with, and the work will be illustrated by more than 100 hand-coloured plates, drawn and coloured under the most careful supervision. Large quarto (10 x 13 inches). Printed on rag paper. The work to be completed in five quarterly parts. All the plates are prepared, and the manuscript for the work is practically complete, and the publishers promise a punctual issue of the parts. The edition will be limited to 225 numbered copies. The subscription price of each part is £2 5s., and the complete work may be paid for in advance at the reduced price of £10 10s. Cheques should be made payable to the publishers, Witherby and Co., 326 High Holborn, London.

BIRD ILLUSTRATIONS.—Mr. E. M. Cornwall, Mackay, Q., is still active with his camera. The latest of his happy results are:—"Nest of Brown-breasted Fly-eater (*Pseudogerygone brunneipectus*)"; "One-tree Rock" (a nesting place of many sea birds); "Nestling of Sea-Eagle (*Haliastur gurrenera*)"; "Nest and Eggs of Black Butcher-Bird (*Cracticus quoyi*)"—an exceedingly beautiful picture. The Butcher-Bird's nest was taken near Mackay on the 11th November, and was prettily situated in a parasitical clump in a tall melaleuca (tea-tree) growing in a swamp. "This," writes Mr. Cornwall, "is the first occasion in this district that I have noted these birds nesting away from the mangroves. They are very plentiful here in their favoured haunts, but so far I have not observed a brown individual. [If there be no birds in brownish plumage in the Mackay district belonging to this species, what is the reason? Why do the black birds cease to throw brown ones in the south and not in the north of Queensland?—EDS.]

A COLLECTOR'S DIFFICULTIES.—Mr. J. P. Rogers, A.O.U., writes:—"I left Derby for Wyndham last May on a collecting trip. Small mammals were the chief object, but am sorry to say the trip was fruitless. I found that on the Fitzroy River nearly

all small animals had died out ; this includes opossums, rats, 'squirrels,' bandicoots, native cats, &c. The rock wallaby seems to be going too. Whilst at Mount Wynne, 100 miles inland from Derby, I searched in vain for the rock wallaby. In 1899 I could see 6 or 7 almost any evening, and was always sure of seeing 2 or 3. Last May I spent one day on the hill, and did not even see traces of them. I had no opportunity of trying the Ord River valley, as my cart broke down, and by the time I effected repairs I had to push straight on to Wyndham. I had a nice lot of birds' skins when the accident happened, but the dingoes got at them. When I left the cart to get help I had to go into Hallock, 40 miles away. On my return only a few feathers were left of the skins."

"GALDENS."—Adverting to the recent correspondence on this subject, Mr. Tom Carter has sent the following extract from a letter received from the late Professor Newton, written under date of 21st March, 1907 :—"What precise species Dampier meant by his 'Galdens' must be left for your Australians to decide on, but I should not, as a matter of choice, fix either on a blue or white one, for I suspect the name originated in America, and there it is almost entirely confined to the pretty dark-coloured *Butorides viridescens* (a little Bittern-looking bird), and it would probably be to some similar-looking bird that the name would be applied in Australia." It appears the Professor held different views from Mr. Carter upon the subject. The letter Mr. Carter wrote to *The Emu*,* with extract from Buffon, shows that Mr. Carter had good grounds for his views. A copy of Buffon's note on Galdens was forwarded to Professor Newton, but he died before the letter reached him.

Handlist to the Birds of Australasia.

The Council of the A.O.U. has pleasure in publishing a "Handlist to the Birds of Australasia," by one of its members, and an Australian native, Mr. Gregory M. Mathews, of Watford, Herts, England. No apology is needed for the list, which has been approved of by Dr. Bowdler Sharpe and other eminent ornithologists. Mr. Mathews has compiled the list, which is up-to-date in classification, as a preliminary step to his proposed classical work in which he intends to give a coloured figure of every known Australian bird. The Council desires to assist Mr. Mathews in his single-hearted enterprise. It was also thought that this new list would form an excellent foundation to the long-deferred "Check-List of Australian Birds." Mr. Mathews' "List" will be issued in the form of a "Supplement" to this issue of *The Emu*, and members are invited to subscribe 2s. 6d. each towards the additional expense.

* Vol. vii., p. 101.



Nest and Eggs of Brown Flycatcher (*Micreca fascinans*), with Egg of Square-tailed Cuckoo (*Cacomantis variolosus*). (Nearly natural size.)

The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. VII.]

1ST APRIL, 1908.

[PART 4.

Notes on Birds Found Breeding near Mackay, North Queensland.

BY E. M. CORNWALL.

PART I.

In this paper I propose to confine my remarks shortly to those birds which have been found breeding during the past season (1907-8) in the immediate neighbourhood of Mackay, the premier sugar-growing district of Northern Queensland.

The coastal range is distant some twenty-five or thirty miles from the seaboard, and the intervening area of rich alluvial country is well watered by many rivers and creeks of considerable size, chief amongst them being the Pioneer River; vast areas of swamps and sedges lie at the back of the sandy ridges bordering the coast, and immense belts of mangroves fringe the banks of the creeks, and even the coast itself in places. It can thus be well understood that it would be hard to find a better district in which to observe the different forms of bird-life.

The Wedge-tailed Eagle (*Uroaëtus audax*) is here, but is not by any means a common species. For some years past a pair have occupied a large milk-wood tree in a patch of scrub on Shoal Point, about 12 miles from Mackay. They are an especially fine pair of birds, and were noticed sitting early in June, and in the following month the nest was occupied by Eaglets.

A more plentiful species is the Whistling Eagle (*Haliastur sphenurus*). Nests may be noted wherever the timber is tall enough to suit them, and many have been found near the town. The nesting season starts about August; young birds were noted on 27th October, and on the same date a nest was examined which proved to be nicely lined and ready for eggs. These birds frequently use their old nests as "feeding tables;" on several occasions after a laborious climb to a nest on which a bird had been observed sitting, it was found to be quite flattened out, and on it were the remains of food, such as snakes, fish, &c., which the bird had left there.

A few pairs of Brown Hawks (*Hieracidea orientalis*) have

been observed during the past season, and a nest was found on 19th October which contained two eggs much incubated.

The sea between the mainland and the Great Barrier Reef is plentifully dotted with rocks and islets of varying sizes, and on nearly every one of these a pair of Sea-Eagles (*Haliaëtus leucogaster*) have made their home. A tree is chosen as a nesting site, if available, but when the islands are barren a rocky peak or bluff is selected, and the nest becomes huge as the rebuilding goes on year after year. The White-bellied Sea-Eagle is an early breeder. On 7th April a very old nest on Round Top Island was being rebuilt, and on 26th May two eggs were laid. These were robbed by some vandal, but the birds laid again in the old nest, and on 3rd August a pair of lusty fledglings occupied the nest. Plenty of food in the shape of fish and sea-snakes lay about the nest, much of it being particularly "high," in more senses than one.

These birds destroy great numbers of sea-snakes; hundreds of their skeletons picked bare by the birds may be seen on any of the islands. Once only have I had the pleasure of seeing a snake being carried off by his enemy, the Eagle. It occurred at Slade Rock, a small islet lying a few miles to the north of this port. The sudden appearance of our party round a jutting rock startled the bird, and he dropped his prey at our feet. It proved to be a monster about 6 feet long, and weighing six or seven pounds. On 29th May one fresh egg was noted in a nest on Cullen Island, and on the same day a nest on Victor Island was found ready for eggs. On 16th June two eggs were found in a nest on Irvine Island. During the last week of July pairs of Sea-Eagles were noticed on many of the islands of the Percus Group, but the nesting season was evidently over, many immature birds being in evidence.

The White-headed Sea-Eagle (*Haliastur girrenera*) frequents the mouths of the rivers and creeks along the coast, rarely going far inland, and seldom being noticed on the islands out at sea. The immense belts of mangroves afford plenty of shelter, and in their recesses their nests are generally placed. They return season after season to the same locality to nest, sometimes renovating the old nest, at other times building a new nest in an adjacent tree. They start nesting in June and July. A nest found on 28th August contained one young bird and one egg, the latter being chipped; on 16th October they were fine chicks, able to fly a short distance, and a week later they had left the nest for good.

The Osprey (*Pandion leucocephalus*) is a conspicuous bird along our coast and on the adjacent islands, but is not so often met with as the White-bellied Sea-Eagle. On 29th June two fully fledged young were noted at Cape Palmerston, and on 1st July a nest was seen on Temple Island which contained one

fresh egg. On the following day, 2nd July, one addled egg was found in a nest on Common Island. On 3rd August a nest beautifully lined and ready for eggs was found in a dead tree near the mouth of the Louisa Creek, but a subsequent visit on 31st August found the nest deserted. I afterwards learnt that some thoughtless person had not only robbed the nest, but had shot the parent birds.

It would be hard to persuade the sheep-farmer of the western country that the Crow (*Corvus coronoides*) is a blessing to man, but in the coastal districts of Queensland they should certainly be afforded all the protection possible. They devour enormous numbers of cane grubs and beetles, and often may be observed amongst the selectors' cattle, climbing over them in their search for that scourge of the north—the cattle tick. Crows' nests are conspicuous objects in the landscape, and may be noted in any part of the district where the timber is tall enough to afford them security. On 6th November a nest was examined which contained a full clutch of six fresh eggs, and during the whole of that month, also December and January, many pairs were seen either sitting on eggs or feeding their brood. A peculiar nesting site was chosen by a pair of Crows on Temple Island; it was discovered on 17th November, and was placed in the head of a Pandanus tree only 8 or 10 feet from the ground. The bird was reluctant to leave the nest, which was found to contain four fresh eggs.

The mournful cry of the Pied Crow-Shrike (*Strepera graculina*) may be heard on many of the larger islands off the coast, but so far I have not met the bird on the mainland. On 9th November we found them nesting on L Island, but in each case the nest was placed far out on thin horizontal branches of pine trees overhanging a very high cliff. On 20th November a nest was secured which contained three fresh eggs.

One of the most familiar birds about the town is the Fig-Bird (*Sphcotheres maxillaris*). Many pairs build their nests every season in the fine trees which adorn the streets of Mackay, and one may often see them sitting quietly on their eggs just a few feet above the traffic of the busiest part of the town. Two or three is the usual number of eggs to a clutch, but the unusual number of four eggs was noted by Mr. T. P. Austin on 13th November last. This season has been a very favourable one, and during the latter part of December and the early part of January Fig-Birds were observed busily attending to matters pertaining to a second brood.

The Drongo-Shrike (*Chibia bracteata*) is a migratory species with us, though odd individuals may be noted in the district at all times of the year. They arrive in considerable numbers about the middle of October, and my first record of a nest last season was on 9th November. The nest was then nearly

completed, but it was two weeks later before the full complement of four eggs was laid. On the 23rd November they were noted nesting freely everywhere, and continued on to the middle of January. Four eggs generally constitute the full clutch, but I have in my cabinet a beautifully marked set of five, taken as late as 6th January. Towards the end of January the Drongos appear to be making a move northward once more, and by the middle of February very few are to be seen.

It would be hard to find a locality better suited to the economy of the Magpie-Lark (*Grallina picata*) than the district of Mackay. Extensive swamps teem with insect life, and their muddy margins afford abundance of the building material which the *Grallina* needs. The breeding season extends over many months. Eggs have been noted in August and during the second week in March, a pair was seen busily feeding a nestful of young. On 29th December my friend, Mr. H. Neilson, who is a very keen observer, found the unusual number of five eggs in a Magpie-Lark's nest.*

To see the Rusty-breasted Shrike-Thrush (*Pinarolestes rufigaster*) at his best one must penetrate the densest brushes or explore the muddy fringes of the mangrove swamps. On 5th January a nest containing three fine fresh eggs was found snugly hidden away amongst a mass of coarse fern growing on the borders of a mangrove swamp. Had the bird not darted off the nest at our approach, it would have been passed unnoticed. It made a pretty photograph.

The Black-faced Cuckoo-Shrike (*Grauculus melanops*) has been a very prolific breeder during the past season. Many of their nests have been noted, and in nearly every case contained the full complement of three eggs. The first nest observed was on the 27th November, and the last, with eggs much incubated, on 26th January.

The Pied Caterpillar-eater (*Lalage leucomelana*) is a common species here, but the nest is rarely found, owing to the fact that it is a tiny structure, and very much resembles the branch on which it is placed; my only record of a nest for the past season was on the 29th December. The single egg was quite fresh.

Go where one may amongst the mangroves or along the scrubby creeks the soft warbling note of the little Black-billed or Brown-breasted Fly-eater (*Pseudogerygone brunneipectus*) may be heard. They prefer to suspend their nests on slender branchlets overhanging running water, but sometimes may be found in the deep recesses of the mangroves. The nests differ from that of *P. magnirostris*, inasmuch as they are not either so bulky or so roughly built. 13th October is my earliest date for

* "Nests and Eggs" (Campbell) states five only "occasionally."

observing their eggs last season, but after that date they were noted nesting very freely up to the end of January. The Bronze-Cuckoo (*Chalcococcyx plagiosus*) generally chooses the nest of this species in which to deposit its egg, and it is particularly noticeable that when the Cuckoo's egg is absent the Fly-eater lays three eggs, but when the Cuckoo's egg is deposited there are only two Fly-eater's eggs in the nest.

The Large-billed Fly-eater (*Pseudogerygone magnirostris*) is not often met with, but a nest containing three fresh eggs was noted during the last week of December.

The Red-backed Wren (*Malurus dorsalis*) represents this charming genus in our district, and one may by chance come across their nests at all times of the year, though the bulk of them breed during November, December, and January.

The Leaden Flycatcher (*Myiagra rebecula*) may be seen anywhere in the forest, but they particularly love the extensive belts of low, swampy country, where insect life is so abundant that living is easy for them. About the end of December these little Flycatchers become very busy nest-building, and during January, if the season be favourable, many of their nests may be found. The nests are inconspicuous objects, but a little patient watching on the part of the observer is generally rewarded by the bird betraying the locality of its nest.

The Shining Flycatcher (*Piesorhynchus nitidus*) is rare in this district, and so far I have come across one pair only. It was on 26th December whilst wading through 2 feet of water and mire in a dense mangrove thicket that my companion called my attention to a nest he had found. It was charmingly situated on a lichen-covered branch, about 2 feet above water level. Three healthy youngsters occupied the nest, and whilst we watched them both parent birds visited them with food. On 2nd January the young birds had left the nest, but were still in the immediate neighbourhood, and were evidently a great source of anxiety to their parents.

On the northern side of the Pioneer River, and stretching away towards Habana Bay, there are immense tracts of land which were at one time under sugar cane, but now produce nothing but a coarse herbage and a rank growth of that curse of the northern coast lands, the *Lantana*. Here the little Grass-Warbler (*Cisticola exilis*) has its home and finds a habitat eminently suited to its economy. The time of nesting varies with the season. In a dry time, when the grass is all burnt off, they have sometimes to wait until February before there is sufficient growth of grass to afford them shelter, but last season was a bountiful one, the grass was tall and green the whole summer through, and the Grass-Warblers were found nesting in October. My last note records a nest of young ones early in February.

A Visit to the Great Barrier Reef.

BY THOS. P. AUSTIN.

WHILE on a two-months' holiday to North-Eastern Queensland, through the kindness of Mr. E. M. Cornwall, of Mackay, I was given the opportunity of visiting many of the islands and banks off that part of the coast. At 9 a.m. on Saturday, 16th November, 1907, Mr. H. Gogay and myself went on board Mr. H. Neilson's beautiful little three-ton yacht *Lassie*, and, after spending two hours taking in a supply of stores, &c., also forty gallons of drinking water, we sailed down to the mouth of the Pioneer River, to there await the arrival of Mr. H. Neilson himself and Mr. J. W. Healey, two gentlemen who have had many years' experiences along the north-eastern coast, also the tide, to permit of our sailing over the sandbank across the entrance to the river.

At 4 p.m. we hoisted the sails, and, after a run of 17 miles with a fair wind, we reached the pretty little Victor Island just after dark. Having already partaken of tea, we at once launched the dingy (which we carried on board), and, with the assistance of a powerful acetylene lamp, visited the sandy banks which are a few hundred yards from the main island. We turned the light upon a large flock of Terns, but could not with certainty identify them. A little further on we heard the plaintive cry of the White-shafted Ternlets (*Sterna sinensis*), which gave us to believe they were breeding there. This proved to be the case, for we saw several nests with eggs. Next morning before breakfast we visited the main island, and here also saw nests of *Sterna sinensis* on the shelly beach. A little higher up, amongst the rocks, just in the scrub, we saw a few nests of the Reef-Heron (*Demigretta sacra*). Some of these nests appear to have been rebuilt year after year, a few of them standing from 3 to 4 feet high, others being only a few sticks on a bough of a low tree or between large rocks. By 8 a.m. we were all on board the *Lassie*, and in a quarter of an hour were on our way to Taffy Island, which we reached in a little less than two hours. Here we again saw Reef-Herons breeding, also Sooty Oyster-catchers (*Hæmatopus unicolor*) and White-rumped Wood-Swallows (*Artamus leucogaster*). Leaving Taffy about mid-day, we dropped anchor off Cape Palmerston Island at 2 p.m. Here only Mr. Neilson and myself went on shore, but before we landed we saw running along the beach some fine Pied Oyster-catchers (*Hæmatopus longirostris*), which from their behaviour gave us to believe they had young, also the Large-billed Stone-Plover (*Orthorhamphus magnirostris*). On this island we saw a rookery of Silver Gulls (*Larus novaehollandiae*). Most of the nests had two eggs, and breeding with them were a few Sooty Oyster-catchers. In the middle of this rookery was a

pandanus tree in which was a Crow's (*Corvus coronoides*) nest only about 10 feet from the ground, and while we were standing under the tree we could see the Crow on her nest. From here we had a little over two hours' run for Temple Island, which we reached just in time to give us an hour on land before dark. The only bird we saw breeding that evening was the Pied Oyster-catcher. Early next morning we again visited this island, and examined a tremendous nest of the White-bellied Sea-Eagle (*Haliaëtus leucogaster*). This nest was built in a white gum tree about 20 feet from the ground, and consisted of about a fair-sized dray load of sticks, and was quite flat on top, but broad enough for four or five men to sleep upon. I might here mention that we saw one nest of these birds upon nearly every island we visited, and on no occasion did we notice two of their nests on the same island, but on a few of the islands we saw the nests of the Osprey (*Pandion leucocephalus*). Just before leaving Temple Island Mr. Healey noticed the nests of three Large-billed Stone-Plovers (*Orthorhamphus magnirostris*) within a few yards of each other. At 10.5 a.m. we set sail for the Beverley Group, which consists of six fair-sized islands on an average about 350 feet high. To this group we had a glorious sail before a strong south-westerly. At 2.45 we lowered the sails, having covered the 35 miles in less than five hours. Here, much to our disappointment, we found bird-life very scarce indeed; the only birds we saw were Coucals (*Centropus phasianus*) and Swallows (*Hirundo neoxena*). After an early breakfast next morning we departed for Reid Island, a small, rocky peak with a little low scrub growing on the top. Here we saw a great many egg-shells of the Panayan Terns (*Sterna anæsthetia*), and beneath the rocks were many young birds. Leaving Reid Island at 1.15 p.m., we had a very trying time. There was very little wind, and what there was was dead against us. We beat against it for fourteen hours. At last, much to our relief, we reached Snare Peak at 3.15 a.m. Here we dropped anchor for a two-hours' sleep. At 6 a.m. we were all on deck, and at once decided not to land here, but to hoist the sails and make our way east for Redbill Island, on the Great Barrier Reef. At first there was very little wind, and after practically drifting for an hour, a breeze sprang up, which increased in force as the day wore on. At 1 p.m. on Tuesday, 19th November, we reached Redbill Island and the long-looked-for Barrier Reef. By this time the weather looked anything but pleasant, especially as we were in a small boat at the Barrier. On this island there was an immense rookery of Reef-Herons (*Demiegretta sacra*) and Panayan Terns (*Sterna anæsthetia*), all nesting together. About 5 p.m. a storm arose, so we went back on board the *Lassie* and eventually decided to remain where we were for the night, as we were very anxious to visit Sandpiper

Island, two miles to the north, and Tern Island, about the same distance to the south. Strictly speaking, these islands were the principal object of our trip, but unfortunately luck was against us. Just before daylight next morning a very heavy thunder-storm broke upon us, accompanied by a strong south-easterly wind, so there was nothing for it but to hoist the sails as soon as possible and away on a 15 miles' sail for shelter behind Scawfell Island. Here we saw no sea birds, but a great number of land-birds, and besides most of those already mentioned as having been seen on several of the other islands we noticed a great many Pied Crow-Shrikes (*Strepera graculina*), also a few Scrub-Fowls (*Megapodius duperreyi*). Scawfell was the first island upon which we found fresh water: here it was running down a small rocky creek. By 2 p.m. we were on our way to Silloth Rocks, arriving at 6 p.m. Went on shore for half an hour, but, finding it very uninteresting, decided to move on after tea to St. Bees Island. At 9 p.m. the moon rose, so, as there was a fair wind, we at once set the sails, and at 12.15 a.m. dropped anchor in Egremont Passage. On this island we saw a great many Crows, Pied Crow-Shrikes, and White Cockatoos (*Cacatua galerita*). After rambling over the greater part of this island for half the day, we departed for Green Island, where we anchored for the night. Next morning we lifted the anchor for the last time, and, turning towards home, reached the Pioneer River just in time to sail up against a very strong outflowing tide at 4 p.m. on Sunday, 24th November, having had a most enjoyable eight days' trip. From point to point on the chart the journey measured about 250 miles, and we had visited fifteen very interesting islands.

The Spangled Drongo-Shrike.

BY E. J. BANFIELD, DUNK ISLAND, N.Q.

IN many parts of the coastal tract of North Queensland the Drongo (*Chibia bracteata*)—a singularly important little bird—is fairly plentiful. He is black, but not so solemnly black that a shade of purple is absent from his shoulders. He has a decidedly crowish head and bill, brownish-red eyes, and a long, forked, fish-like tail, which he has the habit of twitching or flicking to emphasise the meek clinking tones of his staid and sober moments. Though a bird of the forest, the Drongo chooses those resorts which are adjacent to the jungle, and in my experience invariably selects the Moreton Bay ash for nesting. Among the thin grey-green leaves, far towards the end of a branch, the nest, though conspicuous, is fairly safe. But if the nest were not easily seen, the Drongo is not of the disposition to allow anyone to pass without noticing his demure

spouse, whose long tail sticks over the edge of the nest of coarse grass and frail twigs in matronly pride and defiance of all conventions. He "cheeps" and she answers, for she is just as fussy over the business as he is vain. Most birds are secretive in respect of the serious occupation of their lives. The Drongo and his consort make as much of it as possible, advertising it far and wide; and they follow and feed noisily their young long after the desertion of the nest.

In many ways and attributes the Drongo is a character. Conspicuous, noisy, self-assertive, fussy, and often inconsequent, it might be thought that his duties in the harmony of nature were of little concern to others. But, as a fact, he is so useful and brave that the lives of many others would be attended with greater risks and be less comfortable and happy if his species was exterminated. Many other birds he bullies most impudently, for he has a voice "like Mars, to threaten and command." His office, however, is peaceful, for he is the head of the detective department. He owns no deputy. He glories in his work, and he performs it with the utmost vigilance, alertness, and audacity.

The chief enemy to other birds—domestic as well as wild—in this locality is the Grey Falcon (*Falco hypoleucus*). Whencever the Falcon comes the Drongo makes proclamation, and follows him, using language calculated to make the Falcon confoundedly ashamed of himself, if not to provoke a breach of the peace. Domestic fowls have got to understand enough of the Drongo's dialect to take up the alarm when he sounds it, and my dogs, well acquainted with the language of the fowls, fuss in response, so that, however preoccupied, I am instantly brought to realize the presence of the Falcon. Of the White-headed Sea-Eagle (*Haliaeetus girrenera*) and of the Osprey (*Pandion*) neither the Drongo nor the much-petted fowls take the slightest notice; but a Falcon—though he sneak from tree to tree, sitting at intervals as still as an image, and resembling one cut in grey wood—cannot escape detection. When three or four impetuous Drongos make common cause against him the Falcon flies away with a sulky air, followed by volleys of such wrathful, feather-ruffling language that two or three days may elapse ere the decent black detective has another case on his hands. Shrewd and observant as is the Drongo, he does not devote all his leisure moments to the office he so well fills. When he takes his pleasure he throws his whole soul into it—wise bird that he is. His delight is triumphant, his ecstasy transcendent. Yet one is inclined to the belief that he "shows off," conscious of the admiration that is his due.

Since few of the antics of wild creatures so vividly express frenzied joy and gladness in life, such utter abandonment to the blissful passion of the moment, an attempt to describe an aerial

feat performed daily for my special edification cannot be foregone.

All birds, save the bloodthirsty, sneaking Falcon, are privileged, but none appreciates the rights he enjoys as acutely as the Drongo, and none takes such liberties. So, when my ears are assailed with a hopelessly discordant "jangle," I know that my friend the Drongo is ringing his bell as a preliminary advertisement of his superb act. As he jangles "out of tune and harsh," he impels himself with all his might up into the sky almost perpendicularly. At the extreme limit of flight his utterances change, and with stiffened wings, distended to the utmost over his back, he casts himself headlong towards the earth, to the accompaniment of a torrent of twittering, too sharp and rapid and violent for distinct enunciation. Has the wilful bird gone mad that he should deliriously dash himself to death? Can he possibly check himself? Just as one feels constrained to rouse him to a sense of danger from his giddy exploit by a sharp exclamation, the Drongo spreads his wings, and with an impudent whistle flies off to a tree to "chink" and "clink" as he flirts his tail with self-satisfaction over the neat performance of an exciting and incomparable feat.

The Drongo seems specially happy in the company of his consort. A proud fellow came close to the spot whither my leisure had led the other morning, and "jangled" so loudly that his lady came to ascertain the cause. Sitting side by side on a slender branch they continued the chant, and as they "jangled" they flicked their tails and tremulously shook their partially extended wings as does a hungry and expectant youngster of the species. Then the lord and master reversed his position, so that his back was presented to the audience, and, looking into the eyes of his lady, he "jangled," and she "jangled" in unison, "in full-throated ease." At the conclusion of a sustained effort, he hopped round again, and, facing me, bobbed and bowed so expressively that I feel sure he wished to announce that there were no two birds on the island who could sing that delightful love-song more tunefully. And they repeated it three times before the lady flew off to the nest on the Moreton Bay ash 20 yards off.

In the evening, at this season, the Drongo makes himself quite at home. In the soil in the cleared space about the house are thousands of ivory-white grubs, which, developing into chubby brown beetles, are, from the very best of testimony, regarded as dainties by birds. But the beetles, realising in a dim, earth-encumbered, lumbering style that it is fatal to emerge either in broad daylight, when many enemies are about, or when night has fallen and the wailing Stone-Plover, and the sedate Mopoke, and the noisy "Chop-chop" (Nightjar) are prowling and flitting, choose the few minutes of dusk for their exit from the

moist soil. Then the Drongo comes, and, apologising for his intrusion at such an unseemly hour with a few meek "cheeps," makes the best use of his time. Game being abundant and delicious, sport becomes exciting, and he swoops and darts until bewildered by darkness. How intensely human is the Drongo! In his distress he sets up a loud and appealing "jangle," which is immediately answered by his home-keeping spouse, and off he flutters blindly, guided by her shrill and beseeching calls: and the upbraiding and the explanations and consolations continue, *diminuendo*, for full five minutes.

A few domestic hens, taught by the example of the Drongo, wait up after the others have gone to roost to hunt the booming beetles with terrible earnestness; but they sneak off to their perches without exciting comment. Mark the unconcern of the polygamist!

A Visit to the Furneaux Group, Bass Strait.

BY W. J. T. ARMSTRONG, HEXHAM, VICTORIA.

ACCOMPANIED by Mr. E. D. Atkinson, of Tasmania, I spent, during November last, an enjoyable ten-days' cruise amongst the islands of this group, Mr. James Holt, a local resident, in his ten-ton cutter-rigged boat, being our pilot.

The islets in Franklin Sound and off the east coast of Flinders (including the famous Gannet rookery) were, of course, touched at, but as these places are now fairly well known, and have been described by previous visitors, it will hardly be necessary to do more than just mention them.

Both Mr. Atkinson and I were disappointed with our experiences on the whole in Franklin Sound. Birds were much less numerous than we expected, even the commoner varieties, while some species we confidently counted on meeting were missing altogether. I refer principally to the Southern Tern (*Sterna frontalis*) and *Sterna nereis*, both of which have been reported from here. We were very keen to see the Southern Tern, and kept a sharp look-out, but nowhere did they appear. Both species seem to have disappeared from these waters absolutely. It is not surprising that the sea-birds are diminishing and disappearing from the inner islands. The nests are harried continuously by the half-castes and boys; eggs are taken wholesale, and eaten or broken; if these are missed, all the resultant young birds are sure to be discovered and despatched to Launceston, where they are sold for 1s. per head. A case in point: We called at Drum Island, which is in an out-of-the-way position between Barren and Clarke. On our arrival many birds of sorts were flying over and lighting upon it. On examination, however, though nests of the Silver and

Pacific Gulls (*Larus novæ-hollandiæ* and *Gabianus pacificus*) were in plenty, no eggs were there; most of the nests showed indentations where eggs had lain, but an earlier robber had forestalled us—we saw his footmarks on the sand. Of course, we deemed ourselves the lesser evil; we only take special clutches here and there, but those others, they take them all.

I foresee a time when all the more shy birds will have been driven to the more distant and outlying islands for breeding purposes. It is a pity that the Tasmanian Government does not reserve some of the islands in each group adjacent to her shores for the preservation and propagation of the native fauna and avifauna. There are many of little use for any commercial purpose, and a caretaker or two would not cost much. I entirely disagree with the opinion expressed by your correspondent, Mr. J. D. Maclaine, who, writing from Clarke Island in 1906, stated that the Cape Barren Goose (*Cereopsis novæ-hollandiæ*) was holding its own. He quoted someone as having seen a flock of 200 on Chalky—I don't think there are 200 Geese on the whole group. I visited all the islands said to be strongholds of the Goose—the Woodies, Preservation, Chalky, and others; on none did I find Geese numerous, and this in the breeding season, when they should be in greatest numbers. The largest flock I saw on any one island consisted of 12 birds. Without doubt *Cereopsis novæ-hollandiæ* is becoming less rapidly in numbers. How could it be otherwise? Everyone owns a gun, Goose is fair game in all seasons, there are no game laws in effect, and nothing the A.O.U. or any other body has ever done has saved the life of a Goose. There is one constable stationed at Long Corner, a capable, conscientious man, but with such a scattered charge he has no chance to protect game.

On the 15th we made a long trail. Leaving Long Corner at 4 a.m., we sailed round to Drum Island, and continued further to some small rocky islets at the eastern end of the strait between Barren and Clarke. These proving unprofitable, we returned to Drum and Preservation. Thence in a north-westerly direction we journeyed to Black Reef; here were two Black Oyster-catchers' nests and a Caspian Tern's with the usual full clutch of two eggs. Leaving Black Reef, we sailed out to Boxin Island, but did not land. From Boxin we made Beagle Reef; this we found one of the most cheerful islands we had touched at. Birds were in great numbers; Crested Terns, Silver Gulls, Pacific Gulls were all flying about, presently to be joined by a pair of Caspian Terns. The single fresh egg of the latter I found soon after landing. On the rocks a large Cormorant rookery was in progress, containing, I should say, 200 nests. My notes on the White-breasted Cormorant point

to the fact that on some islands it breeds at different seasons to families on other islands; for instance, on Little Chalky I saw a very large rookery on 7th November; it was not in use, though from the appearance of the nests I should say young had left it within three months. My boatman informed me that the birds laid there in June; this was confirmed by another resident. On Black Reef and Rabbit Island there were also small rookeries of the same age, whereas on Cat Island and Beagle Reef there were three colonies breeding in November. This is strange to happen in one region; in fact, Beagle and Black Reefs are only a few miles apart, yet birds of the same species breed in two different seasons. I tried to ascertain if the birds on Chalky laid again in the summer, but could get no reliable information.

On Beagle Reef we met the White-faced Storm-Petrel. Many burrows of this little bird were situated in sandy grounds amongst tussocks; the burrows were large enough to allow the insertion of your hand and arm, and were about $1\frac{1}{2}$ feet long. We took several fresh eggs; some of the eggs were minutely freckled on the thicker end. In each case where there was an egg the bird was in the hole.

That night we lay up at Green Island. Early on the morning of the 16th we pulled away in the dinghy to an outlying reef. On landing we saw a sight that made our hearts rejoice as the "Village Blacksmith's"—over 200 Crested Terns were nesting on a space of about 20 feet square on the middle of the island; their eggs, in all colours—brown, spotted, blotched, and Chinese-lettered—lay in great profusion on the bare ground, about a foot apart, in some cases in a slight hollow (a mere pretence at a nest), in others just on the flat ground. The clutch in every case was one. Near, about a dozen Silver Gulls had built their nests on some saltbushes, and three clutches of the Black Oyster-catcher were noted. *Sterna bergii* and *Larus novaehollandiae* seem to be fond of each other's company, as later the same day we saw on an island south of Prime Seal other small colonies of both nesting together. We explored two or three more islands that day, on one of which (Rabbit) we saw the only pair of Reef-Herons (blue phase) met with on the cruise. We anchored for the night at the settlement. At 6 in the morning of the 17th I went ashore, and on the same strip of sandy beach where on the 7th I had seen the Pied Oyster-catchers' and three Red-capped Dottrels' nests I now picked up nine eggs of the Red-caps (four pairs and a single egg). One bird had evidently chosen a too low situation (all the others were just above high water mark) for its nest, as I found the eggs 4 feet apart and slightly water-marked. I also saw these eggs on Kangaroo. The weather, which had till now been fine, turned squally and wet, so we bore up for Harold Walker's

comfortable establishment at Whitemark, which we reached at 12, and our most interesting cruise ended with regrets.

We spent two days on shore amongst the land-birds, which will form the subject of some subsequent remarks.

Birds Identified in New South Wales during the Seventh Session of the A.O.U.

BY J. W. MELLOR, ADELAIDE.

(* Signifies Tweed River District.)

*Wedge-tailed Eagle	.. <i>Aquila audax</i>
*White-bellied Sea-Eagle	.. <i>Haliaëtus leucogaster</i>
*Brown Hawk	.. <i>Hieracidea orientalis</i>
*Kestrel	.. <i>Cerchneis cenchroides</i>
Goshawk	.. <i>Astur approximans</i>
*Little Falcon	.. <i>Falco lunulatus</i>
*Swamp-Hawk	.. <i>Circus gouldi</i>
*Masked Owl	.. <i>Strix novæ-hollandiæ</i>
*Boobook Owl	.. <i>Ninox boobook</i>
*Spine-tailed Swift	.. <i>Chætura caudacuta</i>
*Welcome Swallow	.. <i>Hirundo neoxena</i>
*Tree-Martin	.. <i>Petrochelidon nigricans</i>
*Roller	.. <i>Eurystomus australis</i>
*Laughing Jackass	.. <i>Dacelo gigas</i>
*Sacred Kingfisher	.. <i>Halcyon sanctus</i>
*Forest Kingfisher	.. <i>Alcyone nucleayi</i>
*Blue Kingfisher	.. <i>Alcyone azurea</i>
*Dusky Wood-Swallow	.. <i>Artamus sordidus</i>
Masked Wood-Swallow	.. <i>„ personatus</i>
White-browed Wood-Swallow	.. <i>„ superciliosus</i>
*White-rumped Wood-Swallow	.. <i>„ leucogaster</i>
*Spotted Diamond-Bird	.. <i>Pardalotus punctatus</i>
*Striped Diamond-Bird	.. <i>„ ornatus</i>
*Pied Crow-Shrike	.. <i>Strepera graculina</i>
*Black-backed Magpie	.. <i>Gymnorhina tibicen</i>
White-backed Magpie	.. <i>„ leuconota</i>
*Butcher-Bird	.. <i>Cracticus destructor</i>
*Magpie-Lark	.. <i>Grallina picata</i>
*Black-faced Cuckoo-Shrike	.. <i>Graicalus melanops</i>
*Caterpillar-eater	.. <i>Edoliisoma tenuirostre</i>
*Rufous-breasted Thickhead	.. <i>Pachycephala rufiventris</i>
*	.. „ (sp.)
.. „ (sp.)	..
*Grey Shrike-Thrush	.. <i>Collyriocincla harmonica</i>
*Rufous-breasted Shrike-Thrush	.. „ <i>rufigaster</i>
*Yellow-bellied Shrike-Tit	.. <i>Fulcunculus frontatus</i>
*Drongo-Shrike	.. <i>Chibia bracteata</i>
*White-shafted Fantail	.. <i>Rhipidura albiscapa</i>
*Rufous-fronted Fantail	.. „ <i>rufifrons</i>
*Black-and-White Fantail	.. „ <i>tricolor</i>
*Spectacled Flycatcher	.. <i>Piezorhynchus gouldi</i>
*Brown Flycatcher	.. <i>Micræca fascinans</i>
*Black-faced Flycatcher	.. <i>Monarcha melanopsis</i>

*Brown Fly-eater	...	<i>Gerygone fusca</i>
*Pied Caterpillar-eater	..	<i>Lalage leucomelana</i>
*Yellow-rumped Shrike-Robin	..	<i>Eopsaltria chrysorrhoa</i>
*Coachwhip-Bird	..	<i>Psophodes crepitans</i>
*Variegated Wren	..	<i>Malurus lamberti</i>
*Orange-backed Wren	..	<i>.. melanocephalus</i>
*Grass-Warbler	..	<i>Cisticola exilis</i>
*White-browed Scrub-Wren	..	<i>Sericornis frontalis</i>
*Scrub-Wren	..	<i>.. (sp.)</i>
*Brown Tit	..	<i>Acanthiza pusilla</i>
*Yellow-rumped Tit	..	<i>.. chrysorrhoa</i>
*Ground-Lark	..	<i>Anthus australis</i>
*Reed-Warbler	..	<i>Acrocephalus australis</i>
*Red-browed Finch	..	<i>Eegintha temporalis</i>
*Chestnut-breasted Finch	..	<i>Munia castaneithorax</i>
*Satin Bower-Bird	..	<i>Ptilonorhynchus violaceus</i>
*Cat-Bird	..	<i>Ælurædus viridis</i>
*Regent-Bird	..	<i>Sericulus melanurus</i>
*Oriole	..	<i>Oriolus viridis</i>
*Fig-Bird	..	<i>Sphecotheres maxillaris</i>
*Raven	..	<i>Corone australis</i>
*White-bearded Honey-eater	..	<i>Meliornis novæ-hollandiæ</i>
*White-cheeked Honey-eater	..	<i>.. sericea</i>
*Yellow-eared Honey-eater	..	<i>Ptilotis lewini</i>
*Varied Honey-eater	..	<i>.. versicolor</i>
*Yellow-faced Honey-eater	..	<i>.. chrysops</i>
*Brush Wattle-Bird	..	<i>Acanthochæra mellivora</i>
Red Wattle-Bird	..	<i>.. carunculata</i>
*Friar-Bird	..	<i>Philemon corniculatus</i>
Brown-headed Honey-eater	..	<i>Melithreptus brevirostris</i>
*Noisy Miner	..	<i>Manorhina garrula</i>
*Silver-eye	..	<i>Zosterops carunculatus</i>
*Rifle-Bird	..	<i>Ptilorhynchus paradiseus</i>
Brown Tree-creeper	..	<i>Climacteris scandens</i>
*White-throated Tree-creeper	..	<i>.. leucophæa</i>
*Orange-winged Tree-runner	..	<i>Sittella chrysoptera</i>
*Spine-tailed Log-runner	..	<i>Orthonyx spinicaudus</i>
*Pallid Cuckoo	..	<i>Cuculus pallidus</i>
*Fan-tailed Cuckoo	..	<i>Cacomantis flabelliformis</i>
*Bronze-Cuckoo	..	<i>Chalcococcyx flagosus</i>
*Koel	..	<i>Eudynamis cyanocephala</i>
*Coucal	..	<i>Centropus phasianinus</i>
*Sulphur-crested Cockatoo	..	<i>Cacatua galerita</i>
*Crimson Parrakeet	..	<i>Platycercus elegans</i>
Rosella	..	<i>.. eximius</i>
Red-backed Parrakeet	..	<i>Psephotus haematonotus</i>
Cockatoo-Parrakeet	..	<i>Calopsittacus novæ-hollandiæ</i>
*Blue-bellied Lorikeet	..	<i>Trichoglossus novæ-hollandiæ</i>
*Purple-crowned Lorikeet	..	<i>Glossopsittacus porphyrocephalus</i>
*Rose-crowned Fruit-Pigeon	..	<i>Ptilinopus ewingi</i>
*Topknot-Pigeon	..	<i>Lopholæmus antarcticus</i>
*Little Green-Pigeon	..	<i>Chalcophaps chrysochlora</i>
*Wonga-Wonga Pigeon	..	<i>Leucosarcia picata</i>
Bronze-wing Pigeon	..	<i>Piaps chalcoptera</i>
*Peaceful Dove	..	<i>Geopelia tranquilla</i>
*Pheasant-tailed Pigeon	..	<i>Macropygia phasianella</i>

*Stubble Quail	..	<i>Coturnix pectoralis</i>
*Stone-Plover	..	<i>Burhinus grallarius</i>
*Black Oyster-catcher	..	<i>Hæmatopus unicolor</i>
Spur-winged Plover	..	<i>Lobivanellus lobatus</i>
Black-breasted Plover	..	<i>Zonifer tricolor</i>
*Golden Plover	..	<i>Charadrius dominicus</i>
*Hooded Dotterel	..	<i>Ægialitis cucullata</i>
*Black-fronted Dotterel	..	“ <i>melanops</i>
*Red-capped Dotterel	..	“ <i>ruficapilla</i>
*White-headed Stilt	..	<i>Himantopus leucocephalus</i>
*Sharp-tailed Stint	..	<i>Heteropygia acuminata</i>
*Sca Curlew	..	<i>Numenius cyanopus</i>
*Whimbrel	..	“ <i>variegatus</i>
*Straw-necked Ibis	..	<i>Carphibis spinicollis</i>
*White-necked Heron	..	<i>Notophoyx pacifica</i>
*White-fronted Heron	..	“ <i>novæ-hollandiæ</i>
*Night-Heron	..	<i>Nycticorax caledonicus</i>
*Bittern	..	<i>Botaurus poiciloptilus</i>
*Yellow-necked Mangrove-Bittern	..	<i>Dupetor gouldi</i>
*Little Mangrove-Bittern	..	<i>Butorides stagnatilis</i>
*Land Rail	..	<i>Hypotænidia philippinensis</i>
Black Duck	..	<i>Anas superciliosa</i>
*Grey Teal	..	<i>Nettion gibberifrons</i>
*Musk-Duck	..	<i>Biziura lobata</i>
*Pacific Gull	..	<i>Gabianus pacificus</i>
*Silver Gull	..	<i>Larus novæ-hollandiæ</i>
*Caspian Tern	..	<i>Hydroprogne caspia</i>
*Crested Tern	..	<i>Sterna bergii</i>
*Little Tern	..	“ <i>nereis</i>
*Mutton-Bird	..	<i>Puffinus tenuirostris</i>
*Pelican	..	<i>Pelecanus conspicillatus</i>
*Black Cormorant	..	<i>Phalacrocorax carbo</i>
Pied Cormorant	..	“ <i>hypoleucus</i>
*Little Cormorant	..	“ <i>melanoleucus</i>
*Little Black Cormorant	..	“ <i>sulcirostris</i>
*Darter	..	<i>Plotus novæ-hollandiæ</i> .

[In a “ flying ” visit, Mr. Mellor has done good work in identifying so many New South Wales birds. If his identification be complete, the Varied Honey-eater (*Ptilotis versicolor*) is “ new ” for that State ; but probably the “ Little Tern ” he observed at the Tweed River is *Sterna sinensis* (White-shafted Ternlet) and not *S. nereis*.—EDS.]

Stray Feathers.

NIGHTJAR WITH TICKS.—This morning I picked up an Owlet Nightjar (*Ægotheles novæ-hollandiæ*) that had evidently been killed by a cat, and was surprised to notice a lot of ticks under the chin and round the eyes and ears. At first sight I thought they were the cattle tick (*Exodes bovis*), but on examination they proved to have brown legs instead of white as in the cattle tick. There were twelve well-filled ticks, the largest being fully $\frac{1}{4}$ -inch long.—CHAS. A. BARNARD. Coomoo-boolaroo, Duaringa, 16.2/08.

MUTTON-BIRDS.—On the 2nd November, 1907, in 45.30 deg. south lat. and 108.0 deg. east long. (Southern Ocean), Capt. A. Simpson, of the s.s. *Moravian*, observed large flocks of "Sooty Petrels" (possibly *Puffinus sphenurus* or *P. carneipes*) flying S.W. He expressed surprise at finding these birds so far from land—about 720 miles S.W. of Cape Leeuwin. According to Bartholomew's "Commercial Chart," in these latitudes there extends upon the ocean for almost the breadth of Australia a belt of drift sea-weed. Possibly the birds were foraging for food—small crustaceans, molluscs, &c.—among these floating meadows.—A.J.C.

* * *

MELBOURNE ZOO NOTES.—On the evening of 6th February I saw hundreds of Starlings catching insects on the wing. It had been a warm day, and the air seemed full of insects. The Starlings noticed it too, evidently, so were hawking in the air by hundreds after their winged prey. When they caught one, they flew to a neighbouring perch on a tree, and swallowed the insect at leisure, and then started off again. The following evening a fine specimen of a Grey Goshawk (*Astur cinereus*) flew slowly past me. It is some years now since we have seen a specimen of this bird here. It only remained about two days in the Gardens, and then left, much to the relief of the wild birds that make these Gardens their home.—D. LE SOUËF. 11/3/08.

* * *

OWLS AND THEIR PREY.—When walking along the edge of a scrub some months ago, about mid-day, a Winking Owl (*Ninox connivens*) flapped out of the branches of a scrub oak just over my head and dropped a half-eaten *Podargus* almost at my feet. I have frequently noticed this habit of the Owls, of keeping their night-killed prey with them in their daytime roosting places. Flying squirrels seem to be their favourite meal, but I have flushed them, at various times in the day, carrying half-eaten ring-tailed opossums, and once a flying fox; the latter, by the way, was the capture of a Powerful Owl (*N. strenua*).—CHAS. A. BARNARD. Coomooboolaroo, Duaringa (Q.).

[These field observations of Mr. Barnard are exceedingly interesting. It is possible that the members of the genera *Ninox*, being partially diurnal in habits, occasionally take their prey during day.—EDS.]

* * *

FINCHES AND CUCKOOS.—It has been generally remarked that never have Cuckoos been so plentiful near Melbourne as during the present season. As a result of the unusual visitation a large number of eggs and young have been observed in the nests of the respective foster-parents. I have found as many as

six abandoned nests of the Red-browed Finch (*Eegintha temporalis*), containing a dead young Cuckoo (*Chalcococcyx*) and a clutch of nearly incubated eggs. In every case the young Cuckoo was no more than a day or two old, and the thought suggested itself that the Cuckoo had either been poisoned by the seed supplied by the Finch (the Cuckoo being an insectivorous bird), or the Finches had discovered the fraud perpetrated on them and refused to feed the stranger. In four of the cases the Finch had built again in close proximity to the abandoned nest, and each nest contained a fresh set of eggs, but no egg of the Cuckoo.—T. H. TREGALLAS.

* * *

RECORD CLUTCH OF STRUTHIDEA'S EGGS.—On the 14th December, 1907, I found a Jumper's nest in a small brigalow (Acacia), and, on climbing up found to my surprise and pleasure that it contained no less than twelve eggs, all fresh or slightly incubated. The eggs differ considerably, and I think three if not four females must have laid in the nest. Three of the eggs are very long, and taper much to the smaller end. Three others, again, are similar—they are short, blunt-ended eggs, the markings on two being extremely small and faint, while the third egg is quite white. I have never seen an entirely white Struthidea's egg before. The remaining six are all much alike, and may be the production of one bird or two—most probably two. Observing that the eggs were fresh, I would have left them a few days to see if the birds laid any more, but I was afraid of an iguana finding the nest, so I thought "twelve eggs in the hand are worth twenty in an iguana," and took them. Another nest found previously contained eight eggs heavily incubated, so the Jumpers must be bent on rearing large famalies this year.—ERNEST D. BARNARD, Gladstone, Queensland, 16/12/07.

* * *

ANTICS OF THE SOUTHERN STONE-PLOVER (*Burhinus grallarius*) AND THE "WALTZING INSTINCT" OF OSTRICHES.—In *Nature* of 23rd January, 1908, p. 278, is a reference to an article by S. J. E. Duerdin in the *Journal of the South African Ornithologists' Union* for December, 1907, on the "waltzing instinct" of Ostriches, as follows:—Ostriches, it appears, are in the habit of running off suddenly with a peculiar whirring movement, sometimes one way, sometimes another, simultaneously spreading their wings, which are alternately raised and depressed. These movements, the author suggests, may be connected with escape from the clutches of the large carnivora. "Indulged in instinctively as play while young, and even when adult, the performance gives the bird expertness in the rapid jerking movements which are those first followed in alarm."

The description of these performances of Ostriches are strikingly like those described by myself in *The Emu* of April, 1906, p. 192, in connection with Southern Stone-Plovers. My words are as follows:—"At times these Plovers performed peculiar antics or dances. When in this humour one of the birds would run with outstretched wings about 20 or 30 yards, bending occasionally to this or that side, or even turning suddenly completely round. (Is there any connection between this and, on the one hand, the weird dances of the Native Companion (*Antigone australasiae*)—on the other, the peculiar little duck of the head when walking practised by some of the Dottrels and their allies?)" I hardly think the explanation given in the case of the Ostriches (*i.e.*, escape from pursuers) can apply to the Southern Stone-Plovers, and to me it seems more likely that all these peculiar actions—in the Ostrich, Stone-Plover, Australian Crane, and various Dottrels—are individual specific or even generic characteristics, as bound up with the bird in question as any other recognised descriptive trait, such as plumage, size, &c. While on this question of bird actions, can anyone give an explanation of the peculiar flicking of the tail in some Bald-Coots (*Porphyrio*), which takes place when they are alarmed? This flicking exposes a patch of pure white feathers, which are then very noticeable.—(DR.) J. B. CLELAND. Perth (W.A.), 25/2/08.

* * *

CHARACTERISTIC TRAITS OF THE TASMANIAN MAGPIE.—In support of the contention that the Lesser White-backed Magpie (*Gymnorhina hyperleuca*) is a bird of distinctive character, I will narrate an incident which I witnessed a few years ago. I preface the narration of it with the remark that it is a matter for regret that the name "Magpie-Shrike" was not bestowed upon this bird in preference to a name which has been for so long a time and until recently was exclusively applied to another bird. A Grey Butcher-Bird (*Cracticus cinereus*), which affected a certain locality, darted suddenly in pursuit of a small bird—I think, a House-Sparrow—whereupon a Magpie appeared and intercepted the Butcher-Bird, and by circling round the smaller bird caused the former to desist from its purpose and to take to flight. I have already alluded in *The Emu* to a habit of chasing Ground-Larks (*Althus*). On a later occasion I saw the Ground-Lark overtaken by the Magpie. The Magpie, however, only brushed past the Ground-Lark (which uttered a shrill cry) and went its way.

A tame female Magpie, which I have seen on one or two occasions, was sometimes attacked by a wild bird of the same species, and defended itself by lying on its back, and in that position warding off its opponent with beak and feet. If decisively worsted, it retired beneath a leafy bush, whither the

wild bird did not venture to follow it. The demeanour of the Magpie, when it is slowly moving across fallow land and searching for the earthworms which lie hidden below the excrement of cattle, remind one of a Rook. But in other respects the Magpie is dissimilar to the Rook, for, whereas the young of that bird build their nests in the rookery in which they have been hatched, young Magpies leave the immediate vicinity of the nest before building nests for themselves. Towards the close of summer Magpies wander further afield than at other seasons, and it is probably at that time of year that young Magpies, which will nest during the following spring, seek fresh feeding grounds. A distance of two or three miles divides the nesting quarters of Magpies in the vicinity of Hobart; in some parts of Tasmania they are much more numerous. Their increase and distribution are doubtless partly governed by the quantity of food obtainable. But, having regard to the protection which they receive, it is surprising that they do not multiply more rapidly.—JAMES R. MCCLYMONT. Queenborough, Tasmania, 10/2/08.

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LIST OF AUSTRALASIAN BIRDS in the Zoological Garden at Breslau on 31st December, 1907:—

2	<i>Dromæus novæ-hollandiæ</i>	75	<i>Melopsittacus undulatus</i>
2	<i>Anas superciliosa</i>	6	" (var.)
1	<i>Dendrocycna eytoni</i> (male)	2	<i>Calopsittacus novæ-hollandiæ</i>
1	<i>Chenonetta jubata</i> (male)	2	<i>Platycercus eximius</i>
2	<i>Anseranas semipalmata</i>	1	" <i>browni</i>
1	<i>Cereopsis novæ-hollandiæ</i> (male)	1	<i>Aprosmictus scapulatus</i>
2	<i>Chenopsis atrata</i> (male and female)	1	<i>Trichoglossus novæ-hollandiæ</i>
1	<i>Zonifer tricolor</i>	1	<i>Dacelo gigas</i> (male)
1	<i>Antigone australasiana</i>	1	<i>Gymnorhina leuconota</i>
1	<i>Ocydromus australis</i>	1	<i>Brachyprporus cinereus</i> (?)
2	<i>Ocyphaps lophotes</i>	1	<i>Corcorax melanorhamphus</i>
1	<i>Geopelia humeralis</i>	1	<i>Artamus superciliosus</i>
1	<i>Licmetis nasica</i>	2	" <i>sordidus</i>
1	" <i>pastinator</i>	4	<i>Tæniopygia castanotis</i>
1	<i>Cacatua gymnoptis</i>	1	<i>Bathilda ruficauda</i>
1	" <i>sanguineus</i>	1	<i>Poephila hecki</i>
1	" <i>goftini</i>	1	<i>Munia pectoralis</i>
5	" <i>roseicapillus</i>	1	<i>Meliphaga phrygia</i>
1	" <i>leadbeateri</i>	1	<i>Acanthochæra carunculata</i>
2	" <i>galerita</i>	1	<i>Tropidorhynchus corniculatus</i>
1	<i>Callocephalon galeatum</i>	1	<i>Grallina australis.</i>

Cereopsis novæ-hollandiæ.—Female died 17th February, 1907. In 1903 the birds mated, and on 11th May four eggs were hatched. On the 25th November birds again mated, without result. In 1904, on the 25th January, the female laid again, and on the 9th March two eggs were hatched. In 1905, on the 31st January, the birds again sat, without result, leaving the unhatched eggs on the 19th March. In 1906, on the 19th January, they again sat, and on the 1st March two young were hatched, which were killed by frost on the 10th of the

same month. Again mated on the 24th March, with the result of five young on the 17th May. To my knowledge the Dresden Zoological Garden bred the same species at the same very early season as observed by me.

Chenopsis atrata.—Breed regularly. 1903, first hatching, 4th April, four young; 10th June, four eggs, destroyed by flood; 5th November, three young.

Melopsittacus undulatus.—Have no difficulty in getting the birds to breed, and with very satisfactory results. Light yellow variety was first produced in Belgia about 40 years ago, and the offspring are always of same light colour.

Calopsittacus novaehollandiae.—Repeatedly breed, with good results.

Dacelo gigas.—The female died 10th March, 1907. The pair repeatedly sat, with result of (usually) three young, selecting an artificial breeding box for nest.

Of the *Poephilæ* and other Australasian Finches we have just at present an unusually small number. They are, however, very satisfactory birds for European collections.

Meliphaga phrygia and *Acanthochæra carunculata* have been in the Gardens for about 7 years and 5 years respectively.

[The foregoing list and observations were kindly sent to Mr. D. Le Souëf by Director F. T. Grabowsky. Mr. Le Souëf saw many of the birds mentioned when visiting Breslau in December last, and thought a complete list would be of interest for readers of *The Emu*.—Eds.]

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CLARKE ISLAND (BASS STRAIT) NOTES.—The Brown Quail (*Synæcus australis*) on Clarke, Passage, and Three Hummocks Islands are very numerous, which shows that last year's nesting season must have been a prolific one. I was on Passage Island (which contains about 400 acres) not long since; the birds were simply there in thousands—I observed as many as thirty rise in one covey. Also there was a great number of Brush Bronze-wing Pigeons (*Phaps elegans*). Like the Quail, they usually lay in November and December. The Pigeon lays two eggs, and the Quail up to sixteen.

The Painted Quail (*Turnix varia*) appears to have left us for the time being, as none have been noticed this season. We had remarkably heavy rains here in February, and also on the East Coast of Tasmania, and I was informed by a resident of St. Helens, Tasmania, that this flood had drowned nearly all the young birds on the coast, but fortunately did not do any apparent damage here, the hilly nature of most of these islands perhaps being accountable for it. The Brush Bronze-wing usually nests on the ground under a thick bush, but it also occasionally builds on trees or shrubs; the nest is a very rudimentary structure.

15th September, 1907.—Have noticed very few of the White-bellied Sea-Eagles (*Haliaëtus leucogaster*) this season; it is indeed a *rara avis*. Many places here where they formerly nested are now deserted, owing, probably, to their having died

from the effects of the poison laid for them upon the sheep stations of the north-east coast of Tasmania, about 18 miles away. I am told that they kill a great number of lambs, and consequently get poisoned for so doing, but personally I very much doubt their lamb-killing propensities, as I have never known them to interfere with our flock, and when examining the nests with fledglings have noted that the bones in and about the nest are either fish or snake bones. I think they must confound them with the Wedge-tailed Eagle (*Uroaetus audax*). We never shoot or destroy the Sea-Eagles—not only for the above reasons, but also on account of their rarity—anyhow in these parts.

The Raven (*Corone australis*)—the grazier's arch enemy—is, like the poor, always with us, and a very wary fellow he is. He seems to have his eye everywhere, and if fired at without success is always on the *qui vive*. When the Mutton-Birds (*Puffinus tenuirostris*) are about half-fledged, one will often see a score of Ravens, in company with the Pacific Gulls (*Gabianus pacificus*), amongst the rookeries, and if a young bird unwarily approaches the mouth of the burrow, he is soon taken by these predators.

The season throughout has been extremely dry, and, owing to their chief nesting places being dry, very few Ducks are to be seen—in fact, I have not, so far, seen a clutch of them this year, although usually there are plenty.

30th September, 1907.—Cape Barren Geese (*Cereopsis novae-hollandiae*) are very much in evidence. On Passage Island, however, the clutches are small; the most seen were three, but more often two, and sometimes one. I came suddenly over a hillock, and surprised a dozen in one lot. Of course, they were not all of one brood; some could just fly, others were half-fledged, and the rest quite small; there were four old birds with them. It is fortunate that their haunts are isolated, as I fear that, as they are a fair table bird, if they were within easy access very few would live to any age. I saw a very young gosling on 10th December, and, as the birds begin to nest in June, one can imagine how erratic they are in laying, which, I consider, protects them to a great extent, as, if they laid at one time, people would most likely rob them, whereas, laying as stated, they would not trouble to go to the islands on the chance of only getting a dozen eggs.

The little White-eye (*Zosterops carunculatus*) nests considerably with us, and their home is chiefly among the green twigs, which harmonise so well with their colour, while their nest, which is perfectly circular, lined with horse-hair and fastened on to the twigs with moss and cobwebs, is a work of art. They usually lay four light bluish-green eggs.

The Dusky Robin (*Petroica vittata*), Flame-breasted Robin

(*P. phœnicea*), Fire-tailed Finch (*Zosteropsmelanocephalus bellus*), Grey-tailed Thickhead (*Pachycephala glauca*), and many of the smaller birds are numerous, but the Whistling Shrike-Thrush (*Collyriocincta rectirostris*) and the Small-billed Cuckoo-Shrike (*Grauculus parvirostris*) are fewer than have been seen for years.

There are not so many Pied (*Hæmatopus longirostris*) or Sooty Oyster-catchers (*H. unicolor*) as there were a few years back, owing to the useless and cruel habit of so-called "sportsmen" shooting these harmless birds, which are not shy and are slow on the wing. On our property we never allow them to be shot, or Gulls either, which people often shoot out of mere wantonness.

The Red-capped Dottrels (*Egialitis ruficapilla*) are here, but their two eggs are exceedingly difficult to find just at high water mark.

The Black Crow-Shrike (*Strepera fuliginosa*) is now very rare, as are also the Black-cheeked Falcons (*Falco melanogenys*). The Brown Hawk (*Hieracidea berigora*), however, nests here freely. The Mountain-Ducks (*Casarca tadornoides*) have been with us most of the year, but as the small lakes, which they prefer to frequent, are dry, most have left. They are one of the most cunning of the Duck tribe, I think, as when you find them with young ones the parent will fly ahead a little way off, or even land and endeavour by fluttering its wings, &c., to lead you from the fledglings.—J. D. MACLAINE. 4/5/07.

Forgotten Feathers.

DR. R. BOWDLER SHARPE has compiled quite a substantial volume on what may be described as the history and growth of the bird collections in the British Museum. Many pages are of peculiar interest to Australians. Until discovered recently by Dr. Sharpe, it was never known where Dr. John Latham, the famous ornithologist of Dartford, England, obtained the material for describing so many Australian, or, as they were called in his time "New Holland," birds.

In 1902 the British Museum acquired from Mr. James Lee, a grandson of the celebrated horticulturist of Hammersmith, a large volume of paintings executed for the latter by one of his collectors, Thomas Watling, who was sent to New South Wales during the years 1788 and 1792. The drawings had evidently been shown to the enthusiastic Latham, who, recognising most of the birds to be new, promptly named them, and appears to have referred to the pictures as "Mr. Lambert's drawings." Perhaps the Doctor had some leading cause in connecting them with Lambert, because in one place he mentions "Mr. Lambert's collection of drawings," although there is no evidence that the

pictures were ever Lambert's property. At all events, Dr. Sharpe states:—"The types of Latham's species are, in fact, founded on these drawings of Watling's."

Had space permitted, the whole of Dr. Sharpe's interesting remarks and references for the birds depicted in Watling's 295 plates would have been given. No doubt Mr. Gregory M. Mathews, in his proposed Australian work, will make free use of these "Forgotten Feathers." In the meantime the names may be mentioned of some familiar Australian birds which the faithful drawings by John Watling have, or rather *may*, become types:—

9. Winking Owl (*Ninox connivens*).—Watling's note:—"This bird has a wonderful power of contracting and dilating the iris and pupil. Native name, *Gou-ru-a-gang*."
10. Red Goshawk (*Urospizias radiatus*).—Watling's note:—"This bird measures from the top of the head to the end of the tail 22 inches, and from the tip of one wing to the other 4 feet. Iris doubtful. A new Falcon."
24. Boobook Owl (*Ninox boobook*).—Watling's note:—"This bird is about the size of the common English Owl. Native name, *Boo-book*."
27. Butcher-Bird (*Cracticus torquatus*).—Watling's note:—"This drawing is about natural size."
58. Black-faced Cuckoo-Shrike (*Grauculus melanops*).—Watling's note:—"Natural size. This is a bird of prey: the native name is *Kai-a-lora*."
60. Grey Crow-Shrike (*Strepera cuneicaudata*).—Watling's note:—"This representation is about one-quarter the size of the bird the drawing was taken from, and the only one yet seen. I had the skin, therefore the iris is doubtful; however, the general likeness is very good." Dr. Sharpe proposes to call this bird *S. versicolor*.
64. Dollar-Bird (*Eurystomus pacificus*).
66. Black-backed Magpie (*Gymnorhina tibicen*).—Watling's note:—"Natural size. Native name, *Irra-won-nang*. This bird has a soft note, not unlike the sound of a well-tuned flute. It is a bird of prey."
72. Koel (*Eudynamis cyanocephala*).
73. Coucal (*Centropus phasianus*).—Watling's note:—"One-half the natural size. Native name, *Tem-minck*. The New South Wales Pheasant. The only one seen as yet."
74. Black-eared Cuckoo (*Misocalis palliolatus*).—Watling's note:—"One-half the natural size. A rare bird."
75. Fan-tailed Cuckoo (*Cacomantis flabelliformis*).
76. Bronze-Cuckoo (*Chalcococcyx plagous*).—Dr. Sharpe's note:—"This is the type of *Chalcococcyx plagous* of Latham, who says that he is indebted to Mr. Lambert for some of the birds described by him; so that it may be that Latham, when he had these drawings before him, had received them from Mr. Lambert. It is curious that Watling's name is not mentioned, as many of the drawings bear his signature."
81. Orange-winged Tree-runner (*Sittella chrysoptera*).
92. Warty-faced Honey-eater (*Meliphaga phrygia*).
99. Fulvous-fronted Honey-eater (*Glycyphila melanops*).—Watling's note:—"Natural size. A honey-bird. A Flycatcher."
102. Spinebill (*Acanthorhynchus tenuirostris*).—Watling's note:—"Natural size. The bird lives on flies and honey; when flying it makes a singular noise, as if the tips of the wings were beaten together under the bird's belly. It hovers over flowers and extracts honey with its brush tongue."

107. Blood Honey-eater (*Myzomela sanguinolenta*).—Watling's note :—
"A rare bird, only seen in the spring."
110. White-eye (*Zosterops carulascens*).
112. Crescent Honey-eater (*Meliornis australasiana*).—Watling's note :—
"Natural size. The only one of the kind ever shot. It is a rare bird." Referring to *M. australasiana* (Shaw), Dr. Sharpe is of opinion that the species must bear the name *M. pyrrhoptera* (Latham), "unless this be considered inappropriate for a yellow-winged bird."
123. Restless Flycatcher (*Sisura inquieta*).
124. Ground-Thrush (*Oreocichla lunulata*).
127. Coach-whip Bird (*Psophodes crepitans*).—Watling's note :—"One-half the natural size. Native name, *Wan-nang*. This bird, from a singular note resembling the crack of a coachman's whip, is called the Coach-whip Flycatcher."
134. Yellow-faced Honey-eater (*Ptilotis chrysops*).—Watling's note :—"Half the natural size. It has a brush tongue, and is a lively little bird ; it lives a good deal on honey."
140. White-throated Thickhead (*Pachycephala gutturalis*).—Dr. Sharpe's note :—"The figure is the type of *Muscicapa pectoralis* of Latham, which, in strict priority, takes precedence of his *Turdus gutturalis*, and the species should be known as *Pachycephala pectoralis*."
149. Bell Miner (*Manorhina melanophrys*).—Watling's note :—"The tongue is short and very bushy. Native name, *Dill-ring*." (Strange coincidence that an aborigine's word for a Bell-Bird should be Dill-ring.—Eds.)
152. Wood-Swallow (*Artamus sordidus*).—Watling's note :—"Natural size. Native name, *Coo-lee-bee*."
153. Babbler (*Pomatorhinus temporalis*).—Dr. Sharpe's note :—"This figure is the type of Latham's description of the Frivolous Thrush (*Turdus frivolus*). The species should in future bear the name of *Pomatorhinus frivolus*."
154. Bristle-Bird (*Sphenura brachyptera*).—Watling's note :—"Natural size. This is a ground bird, with very small wings and very short flight."
164. Fire-tailed Finch (*Zosteropsgularis bellus*).—Watling's note :—"Native name, *Wee-bung*. Natural size. The only one yet seen. May."
166. Red-browed Finch (*Eegintha temporalis*).—Watling's note :—"Native name is *Coo-lung-ag-ga*. It is a very common bird in New South Wales, easily domesticated, and of a lively disposition, even when in a cage, and in a day or two it is easily reconciled."
176. Rufous Fantail (*Rhipidura rufifrons*).—Watling's note :—"One-half the natural size. This bird is of very short flight, and found among brush, rotten wood, and long grass."
180. Yellow-throated Scrub-Wren (*Sericornis citreogularis*).
187. Orange-backed Wren (*Malurus melanocephalus*).
196. Little Field-Wren (*Chthonicola sagittata*).—Watling's note :—"Natural size. This bird sings remarkably well."
216. Spine-tailed Swift (*Chaturga caudacuta*).—Watling's note :—"This bird about half the natural size. Seems to possess, in a great measure, the qualities of the Swallow. Its motions are amazing quick, and eager of its prey, which it seizes with rapidity of lightning. Its favourite food is a large locust, which at this season is plentiful. It is strongly pounced (as a bird of prey), and has a broad, flat bill. The tail quills armed with spikes as sharp as a needle."
217. White-rumped Swift (*Micropus pacificus*).
220. Frogmouth (*Podargus strigoides*).—Watling's note :—"Native name, *Birreagul*. One-half natural size. July."
227. Brown Quail (*Synurus australis*).—Dr. Sharpe's note :—"This drawing is the type on which Latham founded his description of the New Holland Quail." Watling's note :—"Natural size. July. It flies like a Quail, and in its habits much resembles that bird."

238. White-necked Heron (*Notophoyx pacifica*).
 247. Sanderling (*Calidris arenaria*).—Watling's note:—"A kind of Sand or Shore Lark; not very numerous. Native name, *Waddergal*."
 263. Black-throated Grebe (*Podiceps nova-hollandiae*).—Watling's note:—"One-fifth the natural size. Native name, *Mag-a-ger*."
 270. Crested Tern (*Sterna bergii*).
 275. Pacific Gull (*Gabianus pacificus*).—Watling's note:—"Native name, *Troo-gad-dill*."
 277. Silver Gull (*Larus nova-hollandiae*).
 291. Little Penguin (*Eudyptula minor*).

Regarding the Great Brown Kingfisher or Laughing Jackass (*Dacelo gigas*), it is interesting to know that the latter vernacular was in vogue in Watling's day, for he states its native name was *Goo-ge-ne-gang*, likewise it was called the "Laughing Jack Ass." In his notes Watling only refers once to nests. Describing that of the Yellow-eared Flycatcher (Honey-eater), or *Ptilotis auricomis*, he wrote:—"It builds its nest on the pensile branch of some trees or low shrubs, as I suppose to avoid the opossum, flying squirrel, lizards, guana, and birds and mice."

Some interest is attached to renaming specifically the Regent Bower-Bird (*Sericulus*) from *melinus* to *chryscephalus*. Watling's figure is the type of *Turdus melinus* of Latham, the name generally applied to Regent-Bird. Dr. Sharpe states that "this it certainly is not," and the name should be dropped in favour of *S. chryscephalus* of Lewin. There seems no doubt that Watling's figure was intended for the Yellow-bellied Fig-Bird (*Sphecotheres flavigularis*, Gould). Had Dr. Sharpe been aware of the fact that the Yellow-bellied Sphecotheres has been observed in New South Wales,* he would have probably suggested the suppression of Gould's specific name *flavigularis* in favour of Latham's old *melinus*, on the same lines that other old and established names have been altered. But what the Australian student really desires to know is, where is he going to find finality in the matter of nomenclature? If a figure or a name, say of Gould's, has been approved and accepted by Australians for the last 50 or 60 years, there is nothing to prevent the adoption of that name, all the written and unwritten laws of priority notwithstanding. The A.O.U. came into existence to popularise ornithology, as well as to advance "the protection of useful and ornamental avifauna." It has been proved that there is no better bird-protection than to popularise the subject and educate the people. How can this be successfully done by continually altering names? Just as well expect to teach geography by now and again renaming important towns and localities. On the so-called *law of priority*, why should not the Commonwealth of Australia be called "New Holland" and Tasmania "Van Diemen's Land?"—A. J. C.

* "Nests and Eggs" (Campbell), p. 84. And recently Mr. C. C. Brittlebank observed several of these birds in the neighbourhood of the Tweed River.

From Magazines, &c.

AUSTRALIAN FINCH IN ENGLAND.—Miss Joan Gladstone, in *The Avicultural Magazine* for November, 1907, gives a brief note of the successful breeding of the Red-faced or Red-tailed Finch (*Bathilda ruficauda*) in her aviary.

* * *

NEW AUSTRALIAN BIRD.—According to *The Ibis*, January, 1907, *Pavilodryas leucops albicularis* is a new bird from Cape York, collected by Mr. A. S. Meek, and described by the Hon. Walter Rothschild and Dr. E. Hartert.

* * *

A VICIOUS MAGPIE.—Rainbow (Victoria), Tuesday.—W. Dowdy, aged 12 years, son of Mr. John Dowdy, of Kenmare West, had a most unpleasant experience yesterday. A tame Magpie flew up in his face, and picked the pupil of his right eye. Dr. Edwards, who attended the lad, ordered his admission to Nurse Krause's private hospital.—*Argus*, 5/3/08.

* * *

THE KAGU OF NEW CALEDONIA.—In *The Avicultural Magazine* (February, 1908), through Mr. T. H. Newman, F.L.S., Mr. H. E. Finckh, of Sydney, has furnished further remarks on these rare birds, which he has had in captivity for eight years. The Kagus have laid several times, and Mr. Finckh has high hopes of yet being able to rear a young one.

* * *

THE ABROLHOS.—Mr. Alex. W. Milligan, A.O.U., has contributed two entertaining and instructive articles in *The West Australian* (dates respectively 6th and 7th December, 1907) on these most interesting islands. His visit was at the height of the bird season, and some of his notes read more like romance than reality, so great were the numbers of birds seen. Notwithstanding the observations of previous visitors, Mr. Milligan must be in possession of many new facts worth recording in more permanent form. The group has also been brought prominently under notice lately by the wreck of the steamer *Windsor* on Pelsart Island.

* * *

NEW PIGEON FOR AUSTRALIA.—*The Victorian Naturalist*, vol. xxiv., 1907, p. 135, contains a description by Mr. A. J. North, C.M.Z.S., of a new *Chalcophaps* from North-western Australia. Some bird skins, collected by Mr. C. E. May at Port Keats, were forwarded to the Australian Museum by Mr. Edwin Ashby for examination. In the parcel were three

adult specimens of a *Chalcophaps*, which Mr. North has designated *C. occidentalis*, or the Lilac-mantled Pigeon. Mr. North remarks that "this species is allied to the well-known *C. chrysochlora* (Little Green-Pigeon), from which it may be distinguished by the lilac-mauve colour of the head, hind-neck, and upper back, the more pronounced bronze colour of the wings, and the larger white shoulder-patch."

* * *

BIRDS OF THE PHILIPPINE ISLANDS.—Australian students will be gratified to hear again from that indefatigable collector, Mr. R. C. M'Gregor.* His reprints from the *Philippine Journal of Science*, vol. ii., October, 1907, form quite a large pamphlet, and are :—"Notes on a Collection of Birds from the Island of Basilan, with Descriptions of Three New Species ;" "Descriptions of Four New Philippine Birds ;" "The Occurrence of Blyth's Wattled Lapwing and the Scaup Duck in the Philippine Islands ;" "Note on a Bird Unrecorded from Mindanao ;" "Notes on Specimens of the Monkey-eating Eagle (*Pithecophaga jefferyi*) from Mindanao and Luzon ;" "Notes on Birds Collected in Cebu ;" "Birds Observed in Bantayan Island, Province of Cebu ;" "The Birds of Bohol ;" and "The Birds of Batan, Cansquin, Y'Ami, and Babuyan Claro Islands, North of Luzon." The above papers contain notes of many Asiatic-cum-Australian migrants, and are accompanied by several excellent photo.-block reproductions, notably a fine figure, taken from a living bird, of a "Magpie" Swamp-Hawk (*Circus melanoleucus*).

* * *

THE NEW ZEALAND AVIFAUNA.—"Field-Notes on Some of the Bush-Birds of New Zealand. By J. C. M'Lean, M.B.O.U. With an Appendix on the Species of the Genus *Pseudogerygone*. By W. R. Ogilvie-Grant," is an important article, with special interest to New Zealanders, which appeared in the last (October) issue of *The Ibis*. It was based on observations made during the winter and spring of 1906, in a portion of the North Island about 40 or 50 miles inland from Poverty Bay. Mr. M'Lean was supervising the clearing of a large tract of virgin bush to make way for stock, and therefore had excellent opportunities of studying bird life in its original state. By way of supplementing the more technical matter in Mr. M'Lean's excellent article, he has been good enough to promise a paper of a popular kind for *The Emu* on this country when he has completed his observations—therefore further comment on the present article might mean anticipation for Australian readers. However, Mr.

* At the twenty-fifth Stated Meeting of the American Ornithologists' Union, Mr. M'Gregor was elected a Fellow—an honour well merited.

M'Lean is to be congratulated on his dedication of *Pseudogerygone macleani* by Mr. Ogilvie-Grant—a slight reward for one who has performed much thorough field-work in the ornithology of the New Zealand Dominion.

* * *

HOW SNIPE FEED.—In *The Ibis* for October, 1907, Mr. W. H. Workman, M.B.O.U., contributes a somewhat technical article on "Suggestions as to the Functions of the Entotympanic Muscle in the Common Snipe." The writer's conclusion is:—"Now we may suppose when these muscles contract they pull forward the quadrates and pterygoids. They in turn would transmit this movement to the quadrato-jugals, jugals, and maxillaries. The thrust of the maxillary would in turn be conveyed to the premaxillary, which naturally would yield at its most flexible part—about an inch, in the Common Snipe, from the tip. Now that this is what takes place I think may be proved by making a dissection as described above, so as to lay bare the entotympanic muscle, then move up and down the tip of the upper mandible, watching the while the action of the muscles. This, taken with the movement of the maxillary when held with the forceps as described above, would seem to be fair proof that such an action exists. It also seems reasonable to suppose that a Snipe which gets its food in soft heavy ground would find, on pushing down its long bill, great difficulty in opening it enough to grasp the small insects, &c., of the presence of which the nerves at the tip of the upper mandible have already given warning. How much more easy would it be if only the tip were lifted or opened just enough to catch its food, which would be firmly held till withdrawn from the ground, when the tongue and tooth-like processes on the upper mandible would draw the prey into the mouth. Again, if the Snipe was to open the whole beak when submerged, mud and other foreign matter would fill up the tooth-like processes and interfere with the swallowing of the food."

* * *

THE PARROT PEST IN ORCHARDS.—An extraordinary piece of advice is given to orchardists in the current number of *The Journal of Agriculture*. Referring to the ravages of green Parrakeets (Lorikeys) in orchards, the official publication, issued under the authority of the Department of Agriculture, says:—"The best way to deal with the pest is poisoning with strychnine. Crush the strychnine crystals into a fine powder, like flour; then dust a little of it on apples the Parrots have partially eaten. It is the habit of these birds when they have started on an apple or pear to go back to it again till it is finished, so these are the ones that should be dusted with the strychnine. If there are not enough of these, get a sharp-pointed

stick, and scarify some of the good apples and dust them with the strychnine. Great caution must be exercised in laying the poison, especially if there are children about, so that no mishap can occur."

The fearful dangers necessarily involved in powdering the apples, whether scarified or not, with deadly poison on a tree from which apples are being drawn for human consumption are so real and obvious that they need no emphasis. The possibilities that may occur from the employment of poison in this way by unskilled and perhaps careless people are so terrible that the mere contemplation of such a suggestion makes one stand aghast. Compared with this, the proposal to let loose the Danysz microbes as rabbit destroyers is a mild conception, for whilst there is some doubt as to the destructiveness of the microbes on other forms of life than rabbits, there is none at all about the effects of the strychnine. The mischievous tendencies are so wide-reaching that the Government should take immediate steps to denounce this proposed cure for the Parrot pest, and meanwhile all persons having the right to sell strychnine should be warned that the penalties of the *Poisons Act* will be rigorously enforced against them if they sell it to orchard-keepers to be used as directed above.—*Age* (Melbourne), 19/2/08.

* * *

JAPANESE BIRDS.—*The Ibis*, January, 1908, contains a capital article by Mr. Collingwood Ingram, M.B.O.U., entitled "Ornithological Notes from Japan." The article is chiefly field observations made in the early summer of 1907 on the slopes and uplands of the volcano Fujiyama, which rises 12,370 feet from Suruga Bay. Mr. Ingram's headquarters were, however, at about 2,300 feet above sea-level. Seventy-four species of birds are enumerated, and there is a beautiful coloured plate of eight species of birds' eggs. The egg of *Geocichla varia* at once suggests that of *G. lunulata* to Australians, and is figured from the first indisputable authentic eggs of this so-called "British bird," while the figure of the Snipe's (*Gallinago australis*) egg is more stone-coloured than the type figured by Campbell ("Nests and Eggs of Australian Birds," pl. 25). Regarding the Australian Snipe, Mr. Ingram's interesting field notes are quoted at length :—

"This Snipe was tolerably plentiful on the open grassy slopes of Fujiyama, where I was fortunately able to observe its breeding habits. In such localities the birds' presence could not very well be overlooked, owing to the very remarkable sounds produced by them during their aerial evolutions, which in some respects were analogous to those indulged in by other members of the genus. About the middle of May (and doubtless from an earlier date) they were being performed throughout the greater part of the day, and it was unusual if one could not observe two or three birds overhead at the same time. Like most avine sounds, the peculiar

noise made by this species is almost impossible to be described on paper. As this Snipe quarters the sky in wide sweeps, it gives utterance to a very curious rasping sound, which is increased in volume and considerably changed as the bird suddenly dives downward preparatory to 'drumming.' The first of these discordant cries is a harsh, grating *Kha, kha, kha*, and is being constantly repeated during the roundabout flight; but when the bird is about to make its downward swoop this is altered to a still stranger utterance—a curious *Kee-ooow, kee-ooow*, a sound which I can only liken to the sucking noise sometimes produced by water passing through the narrow waste-pipe of a bath.

"The 'drumming' of the species does not differ materially from that of *G. gallinago*, but the 'swishing' sound is perhaps louder, and on the whole it is less like the bleating of an animal. I believe that both sexes take part in the performance.

"Owing to a mistake, the only clutch of eggs in my collection (with the bird shot at the nest) was brought to me on 19th May, and I was deprived of the pleasure of actually taking it myself, although the site of the nest was subsequently pointed out to me. But later on I was fortunate enough to find young birds on two separate occasions. Taking into consideration the habits of its allies, the breeding-ground selected by this Snipe is very remarkable. For instance, I found newly-hatched and almost helpless young on the perfectly dry mountain side, at least a mile and a half from the nearest water, which was in the form of a torrential stream, and apparently never visited by these birds. The ground in question, being composed largely of porous cinders and ashes (deposited during the comparatively recent volcanic disturbances), dries up with astonishing rapidity, even after a heavy downpour of rain. It is, therefore, very difficult to understand how these waders obtain their nourishment, the nearest marsh land or soft ground being many miles distant.

"For a usually shy species, the parents display much concern when their progeny are in danger. In one case, on 6th June, while I was handling a young bird three-parts grown, the female remained fluttering in the grass within a few paces of me, feigning disablement, and uttering harsh cries of distress, and seemingly quite regardless of her own safety. I fancy this Snipe will remove its young if they have been disturbed in any way, like a Woodcock, and the Japanese collector declared that he had proved this to be the case. Certainly, the two apparently helpless young birds that I found myself on 26th May disappeared in a very mysterious manner. After having carefully examined them, I turned my attention for a short time to another nest. Returning to the spot five or ten minutes later I failed to find either of them again, although a very careful search was instituted. Now, considering the ground for some distance round was tolerably bare of vegetation, their disappearance could, I think, only be explained by the fact that they had been removed by one of their parents."

Reviews.

[“Catalogue and Data of the ‘Jacksonian Oological Collection,’ illustrated by numerous Photographs depicting Various Incidents and Items in Connection with this Interesting Study, which has been the Life-work of the Author.”]

THE author of this “Catalogue” is the collector, Mr. S. W. Jackson, of Sydney. The collection is the result of continuous field work for nearly a quarter of a century, commenced in 1883, in the rich sub-tropical region of the Richmond and Clarence Rivers district, New South Wales.

Of the 526 species of eggs that grace the cabinets, the greater

number was collected by Mr. Jackson, or under his direction (he gives the fullest credit to his assistants), in one locality; therefore a "one-man" collection, so to speak, in a given region, makes that collection of more value and importance scientifically. It will be observed (p. 38) that by desire His Excellency Lord Northcote, G.C.M.G., &c., Governor-General of the Commonwealth, and His Excellency Sir Harry Rawson, K.C.B., &c., State Governor of New South Wales, inspected, with much interest, the collection at the Federal Government House, Sydney, on the 18th August, 1904.

Much of Mr. Jackson's careful data, although necessarily personal, is extremely interesting, not only to collectors, but to the general nature-lover, especially those notes made at the "spring of day," when bird voices in the scrubs are heard at "full flood."

The get-up of the "Catalogue" (which contains nearly 200 pages quarto) is a model of neatness and method. In the margin are three reference columns—viz., "Data No.," "No. in A. J. Campbell's Book," and "No. of Eggs." The nomenclature (both technical and vernacular) is in accordance with the list adopted by the Australasian Association for the Advancement of Science (1898). In many instances aborigines' names are furnished.

Here are examples of Mr. Jackson's notes, selected at random:—

"CHESTNUT-BREASTED FINCH (*Munia castaneithorax*, Gould).—Taken by Sid. W. Jackson at Grafton, Clarence River, N.S.W., 10th March, 1900. Nest built in long, blady grass (*Imperata arundinacea*), on the south bank of the Clarence River. Set of eight eggs. These birds are very plentiful in the grass-beds of the Clarence River district, and we have frequently seen large flocks of them there. The nests were always built in long grass, and sometimes reeds, and were large, bottle-shaped structures, composed of dried grasses. They are familiarly known as 'Barley-Birds' in the district."

"BRONZE-CUCKOO (*Chalcococcyx phigosus*, Latham).—Taken by Frank and Sid. W. Jackson, from a nest of the White-throated Fly-eater, or Native Canary (*Gerygone albicularis*), at Sandgate, near Brisbane, Queensland, during the month of September, 1887. The nest was built in a mangrove tree (*Avicennia officinalis*), growing in the waters of Moreton Bay, and was constructed principally of wadding. This material we tied to a limb near the started nest, and the birds very wisely utilised it. I have the nest."

"RED-CROWNED FRUIT-PIGEON (*Ptilopus swainsoni*, Gould).—Taken by Isaac Foster and Sid. W. Jackson near my camp in the scrub at Booyong, Richmond River district, N.S.W., on 10th November, 1899. Nest was a very frail structure, and was placed in an entanglement of small vines at an altitude of 20 feet, and was difficult to approach without knocking the egg out of the flat nest. A single egg is the usual complement for a sitting. This handsome Pigeon has a very mournful-like note, which we heard from daylight till dark, and it became quite monotonous to us. The birds were very plentiful in the Booyong and Binna Burra scrubs in 1899, and we found several nests and eggs. They are familiarly known in the Richmond River scrubs as the Pink-headed Dove. The egg is pure white. This egg measures in inches 1.20 x 0.87."



Nest and Eggs of the Rifle-Bird (*Ptiloris paradiseus*).
(First found with complete clutch. Nearly half natural size).

Quite a chapter, graphically written, describes the historical finding of the first and as yet the only nest of the rare Rufous Scrub-Bird (*Atrichia rufescens*), the female of which has not yet been described.* But undoubtedly the *pièce de résistance* is the account (with photo. pictures) concerning the finding of several nests of the Rifle Bird-of-Paradise (*Ptilorhis paradisea*). Regarding the discovery of the nest first found, Mr. Jackson writes:—

“ I arrived at the Booyong scrubs from Sydney on the 4th of October, 1899, and on the second morning, at twenty minutes to five, was awakened by one of these birds making its grating or rasping-like noise just at the back of the camp, and behind me as I reclined in my bunk. I took no notice, however, but next morning it was repeated, and I was awakened at 4.30 a.m., and then became very interested, deciding to visit the spot next morning if the noise, or note, was for the third time made. Next morning I was again awakened by this bird, this time at nearly 5 o'clock, so I slipped on a pair of boots, and in my pyjamas made my way through the treacherous lawyer vines and thorn bushes to a part from which the sound appeared to come. I had not gone far when I saw a female Rifle-Bird fly from a dark clump on top of a scrub cherry tree down upon a water vine (*Vitis hypoglauca*), which hung swing-like between two trees. When I witnessed this I stood motionless, and almost breathless with excitement, and watched the female on the vine ; she sat there for fully fifteen minutes, eyeing me in all ways, and turning around and looking down at me sideways ; then she would spend a few minutes combing and cleaning her feathers with her long, curved bill. During this performance a handsome male bird suddenly put in an appearance, and deliberately flew down on the side of the rough-barked trunk of a tall red cedar tree (*Cedrela australis*), within about 3 feet of me. After carefully scrutinising me all over, in a somewhat inquisitive manner, and having remained on the side of the tree for about fifteen seconds, it gave two dreadful screeches, and then disappeared very suddenly, and just as mysteriously as it came. All kinds of pictures then flashed across my mind. I imagined the nest was not far off, and that it contained a lovely set of eggs ; then again I thought it must have young in it, as the hen bird sat so long in the one place. At last I tried to raise my hopes by surmising she was building, when off she flew, and went in almost a straight line through the scrub. It was a relief to me, as I was quite cramped standing in the same position, and unable to kill the large mosquitoes that had been feeding on my hands and face, as well as remove the blood-thirsty scrub-leeches, which had also found me. I did not go away, however, but sat down behind a tree for fully another twenty minutes ; still she did not return, and my hopes began to fall again. By this time, about 5.30 a.m., the scrub was better lighted, and I walked over and looked up at the dark clusters of lawyer vines (*Calamus australis*) and scrub cane (*Flagellaria indica*), which were interlaced with the foliage at the top of the cherry tree, and could see an isolated clump up near the top. However, on examining the ground directly beneath this nest-like object, I found several freshly plucked portions of a small round-leaved climbing fern (*Polypodium serpens*), which, of course, told me that there was a nest of some kind in course of construction overhead. I was now satisfied, and immediately quitted the spot, returned to camp, and found W. M'Enerny, my assistant, wondering what had become of me ; and when I related my find to him it

* *I.e.* scientifically ; but one of Mr. Jackson's correspondents (Isaac J. Foster) furnishes the following description of a female *Atrichia*, curiously captured alive in the scrub (p. 19.) :—“ About one inch shorter than the male, and possesses no whitish mark under the throat, as is the case with the male, the underneath parts being devoid of rufous and are grey instead ; the back and other parts are similar to those of the male.”

was, of course, at once treated as a joke. At mid-day, when the sun was well overhead, we visited the spot together, and with the aid of the field glasses could see a nest with masses of the said tree-climbing fern built into it, as well as cast-off snake skins dangling from it and the vines close by. I climbed up, after erecting a long pole, and securing it with three guy lines, but did not put my hand near it, nor did I smash or disarrange any twigs or limbs on my way up and down : it was a new nest, and quite green with the vast quantities of the climbing fern that had been utilised in its construction. It was rather deep, and looked nearly ready for eggs. Next day the camp was left in charge of my assistant, and I proceeded to Sydney by steamer from Lismore, in order to attend to some business matters there, returning to the scrub again within seven days. Mr. M'Enerny assured me that no person had been near the tree containing the nest during my absence, and according to my instructions no gun had been fired in that neighbourhood. So, with the full determination this time of taking a set of eggs from the nest (8 days since I last climbed up), I again erected the pole and ascended ; but how my heart dropped when I found the nest filled level to the top with dead leaves (*induviae*), and different to any of those on the trees towering above the nest ! I did not know what to do. Had the birds abandoned the nest ? was the question, or had they filled it with the leaves for their own purpose ? which no doubt would be their object, thus keeping intruders away until they were ready to lay, and so give the nest a desolate effect. No doubt that this is the precaution the birds had taken for doing so. I took some of the dead leaves from the nest with a pair of forceps, and compared them with those on the trees growing in the immediate surroundings, but found none to correspond with them. I was then satisfied that the birds had placed them in the nest themselves. I then left it for seven days more, and after hearing the birds screeching early one morning behind the camp, having been silent for that time, I erected the pole, and after securing it with three ropes, climbed up to the nest and found in it not 'dead or twisted leaves,' but instead two magnificent eggs, which were quite fresh. It was a glorious sight to look into the nest this time, when I took those two lovely specimens from it, and knowing they were the first and only pair then recorded to science* made me feel as though I had suddenly and unexpectedly inherited some big fortune. I was all excitement. This took place on the 2nd of November, 1899, and it was only very great patience and perseverance that won for me these highly treasured specimens. The tree was then cut down, the nest and eggs replaced in their natural positions and photographed."

The numerous photo.-block reproductions are exceptionally fine, while the subjects, although naturally captivating, have been skilfully handled by Mr. Jackson. For instance—"Nest of the Rufous Scrub-Bird," "Home of the Parra" (depicting nest and bird among water lilies), "Satin Bower-Bird's Nest" (set in mistletoe), "Playground of the Regent-Bird," "Nest of Black-shouldered Kite," "Camp in the Booyong Scrub," &c., &c. Some of the nest illustrations are accompanied by a scale, useful for the sake of comparison as to size, &c.

To such a wealth of first-hand data as Mr. Jackson's "Catalogue" contains no exception can be taken, but possibly No. 344, *Prion ariel*, and No. 348, *Prion desolatus* (eggs of both

* Mr. Jackson is quite correct in stating that this is the first *pair* or full clutch, but a single egg (the type) was taken by Messrs. Isaac Foster and W. T. Bailey in the Richmond scrub, 19th November, 1896, and was described in the *Victorian Naturalist*, vol. xiii., p. 145, with a photo. of the nest (1897). See also "Nests and Eggs" (Campbell), p. 68.



Wm. M'Enery ascending pole to Nest (see x) containing first found complete clutch of Rifle-Bird's Eggs. Locality—Booyong Scrubs, Richmond River, N.S.W.

FROM A PHOTO. BY S. W. JACKSON.

collected on Kent Group, Bass Strait), are referable to one (the first-named) species, while the eggs of *Strepera arguta*, from Flinders Range, South Australia, may be referable to the new species, *S. fusca*.* It would be extremely interesting to learn more about the history of the set of eggs of the Curlew (*Numenius cyanopus*) taken on the northern coast of Western Australia by Mr. L. Dumas. The find could be understood if it were on the "northern coast of Siberia." But perhaps the finding of the eggs of the real eastern Curlew in Australia is an exception akin to the finding of the eggs of the Lesser Golden Plover in New Zealand.†

Alas! in this work-a-day world the bird-lover is no more exempt from the pressing demands of life than other mortals, and Mr Jackson has been compelled to part with his beautiful and well-filled cabinets. The concluding paragraph in his preface reads thus:—"The collection has now passed from my hands, having been purchased by another bird-lover—viz., Henry L. White, Esq., Belltrees, near Scone, New South Wales; but though I can no longer pore over the treasures it contains, pleasant recollections of the building will always be with me, and the thought of it bring back happy memories of many golden days and sparkling nights spent in the open."

Mr. Jackson is deserving of genuine sympathy in having to abandon (for a time, at least, it is hoped) his life-long study, but he may rest assured that in his unique "Catalogue and Data" he has, in the cause of Australian ornithology, left on record for all time a volume of interesting, useful, and original matter, which must be acknowledged by every conscientious author coming after him.

[The illustrations are from blocks loaned through the courtesy of Mr. H. L. White, Belltrees, Scone, N.S.W.]

[“A Monograph of the Petrels (Order Tubinares).” By F. Du Cane Godman, D.C.L., F.R.S., President of the British Ornithologists’ Union, &c., &c. With hand-coloured plates by J. C. Keulemans. In five parts. Part i. Witherby and Co., 326 High Holborn, London. December, 1907.]

A PRELIMINARY notice of the above-mentioned classical work by Dr. Godman was given in *The Emu*, vol. vii., p. 169.

Although the edition has been limited to 225 copies, and very few reserved for reviews, the editors of this journal have been favoured with a copy of part i. (which deals with the Storm-Petrels) of this important monograph. The work in general will be of peculiar interest to Australians and New Zealanders, because about 50 species of their sea-birds will be described, if not figured, therein.

Following the scientific name of the species the vernacular

* *Emu*, vol. v., p. 27. † *Trans. N.Z. Inst.*, vol. xvi., p. 308 (1883).

name is furnished in brackets. A succinct description of each bird is given in technical as well as *popular* language; indeed, the bulk of the observations is written in a free and popular style, and will meet with the approval of Australians who lean more to the field side of than cabinet ornithology. Descriptions of nesting places and eggs are also given.

Here is a note concerning the Wilson or Yellow-webbed Storm-Petrel (*Oceanites oceanicus*), which is probably the most southerly breeder of any known Australian bird:—"At Cape Adare, in South Victoria Land, Dr. Wilson perceived some of these Storm-Petrels hovering round the mouth of crevices in the rocky side of the cliff, often settling close by for a few seconds, and then sailing in short circles round it, reminding him strongly of the movements of a House-Martin at its nest under the eaves of a country barn. He adds the following interesting note:—'Two of these crevices could not be reached, but soon we saw a bird hover round and settle upon a large boulder. Hunting about for a burrow underneath, we caught the sound of twittering, and traced it to a kind of mouse-like hole. This, by dint of long and tedious picking with a sheath-knife, we enlarged till it admitted an arm up to the shoulder. The work was laborious, as the floor of the burrow was hard black ice and grit, but eventually we reached the nest. At the end of the little tunnel was a chamber containing a very comfortable nest thickly lined with Adélie Penguins' feathers, and in it a somewhat remarkable collection. First we brought out an adult male alive, then an adult female, then two eggs, one clean and newly laid, the other old and rotten, and under all another dead and flattened adult *Oceanites*. Outside, as we worked, a fourth bird was hovering, which when shot proved to be an adult male. It has been long known that with this species the nesting burrow has been often used by more than a single pair.'"

No nesting locality of the White-breasted Storm-Petrel (*Cymodroma grallaria*) has yet been discovered. This is somewhat remarkable, seeing that so many far southern exploring expeditions have been undertaken during recent years, and points to the suggestion made by some sound authorities that this bird is merely a stage or phase of plumage of the Black-bellied Storm-Petrel (*C. melanogaster*).

The coloured plates are Mr. J. G. Keulemans' best, but the poses of some of the figures will hardly satisfy the field observer, who usually sees a Petrel on shore in a reclining position, or waddling awkwardly over the ground. In a few of the plates of the Storm-Petrels the figures are on straight legs, Dottrel-like, —quite an unnatural pose, except in action when taking wing. Better had these exceptions been depicted as is aptly described in the letterpress—"The little Petrel delicately treading the water to steady itself a moment, while it picks up a tiny morsel" (Wilson).

[“Birds of Britain.” By J. Lewis Bonhote, M.A., F.L.S., &c. With 100 illustrations in colour selected by H. E. Dresser from his “Birds of Europe.” London, Adam and Charles Mack. 1907.]

MR. Bonhote has written a bulky book of a distinctly popular character on the “Birds of Britain.” When an author shall have arisen to write a similar work on the “Birds of Australia,” then the masses will begin to be enlightened and take an interest in the ornithology of their country, and the birds themselves be saved.

In addition to the descriptions and plates of the birds themselves, Mr. Bonhote’s notes are extremely valuable and interesting because “taken at first hand straight from Nature.” The book includes every species which has been known to occur in Great Britain, and in this connection it is interesting to note amongst the “casuals” such Australian birds as the Black-browed Albatross (*Diomedea melanophrrys*), Allied Petrel (*Puffinis assimilis*), Sombre Petrel (*P. griseus*); the tiny ocean wanderer, the Yellow-webbed Storm-Petrel (*Oceanites oceanicus*), &c., &c.

The coloured plates are excellent examples of “three-colour” work, and are evidently reproductions from original drawings by the far-famed J. G. Keulemans. In the beautiful plate of the Song-Thrush (*Turdus musicus*)—a bird which has been acclimatised for years in Victoria—it will be observed that the species has grown lighter coloured at the antipodes than the rich dark European example figured in the book.

South Australian Ornithological Association.

THE bi-monthly meeting of the South Australian Ornithological Association was held at Dr. A. M. Morgan’s on Thursday evening, 19th December, 1907, Dr. Morgan presiding over a good attendance. The hon. secretary reported that the “Powder Magazine Reserve” at Dry Creek had now been proclaimed a “Bird-Protection Reserve” under the *Birds Protection Act* of 1900, as recommended by the Association, and that the Commissioner of Crown Lands had also acceded to the request of the Association in placing the Kestrel (*Certhnia cenchroides*) upon the totally protected list. Mr. M. Symonds Clark reported having been instrumental in having the Emu totally protected in South Australia. The destruction of the Black Swan was deplored, and several members bore testimony to the manner in which half-castes and blacks destroy the eggs of this bird, in taking them by hundreds during the breeding season. As a stay on the wholesale use of firearms by small boys, who roam about seeking what they may shoot, it was thought that the District Councils and municipal bodies should strictly enforce the *Firearms Act* in reference to pea-rifles, and make the owners take out licences. The hon. secretary reported having, with Captain S. A. White, represented the Association and the State at the Seventh Congress of the Australasian Ornithologists’ Union, which was held in New South Wales and Queensland last October and November, when useful business had been transacted, including the opening of a debate upon the unification of the game laws and bird protection laws throughout the Commonwealth, and that it had been resolved to invite official representatives from each to attend the next Congress, to be held in Melbourne at the latter end of 1908. The hon.

secretary was instructed to procure lists of totally protected birds from each of the States, so that the Association could be well informed when it was time to act. Mr. A. H. C. Zietz, F.L.S., reported having seen at Meningie, S.A., the Black-eared Cuckoo (*Mesocalisus palliolatus*) being fed by a pair of Red-throats (*Pyrrholaemus brunneus*), and showed the birds in question to prove their identification. The subject of the evening was notes upon the birds seen on the A.O.U. Seventh Congress trip, by Mr. J. W. Mellor and Captain S. A. White. Mr. Mellor reported having identified 135 species during the trip, the major part of which were seen during the "camp-out" on the Tweed River, when a profitable time was spent. The S.A. representatives had travelled about 4,000 miles by train, which had taken up much time, and left far too short a period for actual field work. Captain White and Mr. Mellor showed several skins of birds collected by them on the Tweed River, permission for procuring special skins having been kindly granted by the New South Wales Government.

The first meeting of the year of this Association was held at the residence of Dr. A. M. Morgan, Angas-street, Adelaide, on Thursday evening, 16th January. Dr. Morgan presided. The hon. secretary reported having written to the Municipal Association and the District Councils Association with reference to the better observance of the *Firearms Act* by boys carrying pea-rifles, who are required to take out licences when using them. The attention of the Commissioner of Crown Lands was drawn to the fact that Black Swans were being shot in contravention of the *Birds Protection Act* of 1900, also that birds were being caught in the Northern Territory and exported. Mr. M. Symonds Clark tabled correspondence from the Commissioner of Police relative to bird protection in various parts of the country, which showed that more knowledge about totally protected native birds was needed even amongst officers themselves. Captain S. A. White read interesting notes upon various birds breeding at the Reedbeds this season. Mr. J. W. Mellor reported having seen the Tawny-fronted Honey-eater (*Glyciphila fulvivrons*) at the Reedbeds during this month. A number of exhibits were shown, including some sternum bones by Dr. A. M. Morgan, to illustrate the variation in certain families. Mr. M. Symonds Clark showed feathers of the Alexandra Parakeet. Captain S. A. White exhibited a number of birds obtained in the Tweed River district, including the Satin Bower-Bird (*Ptilonorhynchus violaceus*), the Variegated Wren (*Malurus lamberti*), and the Yellow-rumped Shrike-Robin (*Eopsaltria chrysorrhous*).

Notes and Notices.

MR. H. L. WHITE, A.O.U., Belltrees, Scone, New South Wales, desires to purchase certain rare Australian birds' eggs. None but well-authenticated full clutches will be considered. Reference, Mr. A. Mattingley, hon. secretary A.O.U.

SURGEON-COLONEL C. S. RYAN, P.M.O., Victoria, a member of Council of the A.O.U., is about to visit England on a brief holiday. It is also Colonel Ryan's intention to visit some of the eastern countries of Europe—notably, Turkey, Hungary, and Russia. At the last meeting of the Council of the A.O.U. the ex-president was empowered to convey greetings to similar societies in the old world when opportunity afforded.

ANOTHER ORNITHOLOGIST GOES ABROAD.—The members of the South Australian Ornithological Association met at "Wetunga," Fulham, on Thursday evening, 6th February, to

bid adieu to the president, Dr. A. M. Morgan, who is about to proceed to Europe, to continue his medical studies. The host (Captain S. A. White), in pointing out the object of the gathering, referred in eulogistic terms to Dr. Morgan's scientific skill and ability, and wished him, on behalf of the company, a safe journey and health and prosperity.

MR. C. F. BELCHER, M.A., LL.B., recently one of the editors of *The Emu*, has, it is stated, entered the service of a London solicitor's firm, and has decided not to return to Australia for the present, at least. *Table Talk* (Melbourne) is responsible for the following announcement:—"Engagement.—Mr. Charles Frederick Belcher, son of the Hon. G. F. Belcher, Merchiston Hall, East Geelong, and Miss Visger, daughter of the late Dr. Visger, London."

ADDENDA AND CORRIGENDA.—The following additions and corrections to my papers which have been published in *The Emu* may be made:—

Manche de velours (fou dactylâtre) appears to be primarily the Cape Gannet (*Sula capensis*), and in a secondary signification any Gannet having a white body and black or brown wings, or having a white body and black quill-feathers.—*Emu*, vol. v., p. 166.

Rotgans is the Brent Goose (*Branta bernicla*), which resembles the Pied Goose (*Anseranas semipalmata*).

In a "Polyglot Dictionary" I find Kropfgans rendered Kropgans, and Schneegans appears to be a synonym of Kropfgans. Schneegans is Sneemugans in Dutch, and Snow Goose in English. Hence Kropgans is probably a Snow Goose. The Blue-winged Snow Goose (*Chen canadensis*) is bluish-grey varied with greyish-brown, and has black quill-feathers and the head and upper part of the neck white. It bears a resemblance to the Cape Barren Goose (*Cereopsis novaehollandiae*), which is now Hoendergans in Dutch. Duiker (*Duycker*), diver, is in compound words employed of various waterfowl. Thus Ijsduiker is the Great Northern Diver, Kuifduiker the Selavonian Grebe. At the Cape of Good Hope *Phalacrocorax capensis* is the Trek-Duiker, *P. neglectus* the Bank-Duiker.

Rheas are called "Hémas" by Pero de Magalhæs de Gaudavo (1576).—*Emu*, vol. v., p. 213.

Instead of "Cassowaries were seen," read "Footprints resembling those of a dog and Cassowary were seen."—*Emu*, vol. v., p. 214.—JAMES R. M'CLYMONT. Queenborough, Tasmania, 22/2/08.

EXPEDITION TO KERMADEC ISLANDS.—Mr. Tom Iredale A.O.U., has organised a private expedition to the Kermadec group to explore its fauna and flora. The party left New

Zealand last January, and intend to be absent about a year. Mr. Iredale, in a communication to Mr. Mattingley, states :—“I intend studying the bird-life myself. We have several cameras, and I anticipate a goodly number of photographs of birds will be taken. I hope to contribute some articles and photos of the more interesting birds to *The Emu*. I expect to unravel the mystery of *Æstrelata neglecta*. At any rate, the results of a year's observations should be valuable, and should place the knowledge of the breeding habits of these Petrels on a much better footing than exists at present.”

MR. DAVID SETH-SMITH, M.B.O.U., a member of the Council of the Zoological Society of London, and well known as the editor of *The Avicultural Magazine*, and as the author of a standard work on “Parrakeets,” is at present in Australia, obtaining specimens of Australian fauna for the London Zoo. It is intended that those gardens may have a good collection of specimens from this country during the Franco-British exhibition to be held in London shortly. Two keepers have also arrived to look after the various specimens they expect to take from Australia, and already the Zoological Gardens of Melbourne, Sydney, and Perth, have a considerable amount of stock in hand for Mr. Seth-Smith. The vessel they go by should be like a floating menagerie—an Australian “ark.” Our members, Dr. Geo. Horne and Miss E. Bowie, have generously presented to the London Zoo. (through Mr. Seth-Smith) the whole of the native birds in their aviaries. Similar gifts would be welcomed, and could be sent to any of the above-mentioned Australian Zoological Gardens to be forwarded.

THE PRESIDENT OF THE A.O.U. ABROAD.—At the request of the editors of this journal, Mr. Dudley Le Souëf, C.M.Z.S., has obligingly furnished a few brief bird-notes gleaned on his recent tour round the world, taken in the interests of the Zoological Society of Victoria. He states :—

“On my way *via* Queensland to Japan I spent a day at Port Darwin. While there I noticed a few birds, which included the Roller (*Eurystomus australis*), Masked Finch (*Pocphila personata*), *Artamus venustus*, Little Friar-Bird (*Philemon sordidus*), White-gaped Honey-eater (*Ptilotis unicolor*), Yellow Honey-eater (*Ptilotis flavescens*), Brown Honey-eater (*Glycyphila ocularis*), Lesser Goshawk (*Astur cruentus*), the Crow (*Corvus coronoides*), Drongo (*Chibia bracteata*), *Grallina picata*, and Rufous Tree-creeper (*Climacteris rufa*). But the country in the immediate vicinity of the town was not very suitable for bird-life. I then visited Dilli, in Timor, spending barely a day there, but here Australian birds were again seen. They included the Pectoral Rail (*Hypotacnidia philippinensis*), Grey Teal (*Nettion gibberi*).

frons), Delicate Owl (*Strix delicatula*), Bee-eater (*Merops ornatus*), Sacred Kingfisher (*Halcyon sanctus*), Fan-tailed Cuckoo (*Cacomantis flabelliformis*), Rufous-breasted Bronze-Cuckoo (*Chalco-coccyx pectilurus*), Koel (*Eudynamis cyanocephala*), Black-faced Flycatcher (*Monarcha melanopsis*), White-bellied Cuckoo-Shrike (*Grauculus hypoleucus*), besides local birds. My next stopping place was Manila, where I had a day and a half. Here there are a few patches of scrub, but much bamboo grows in thickets. There were comparatively few Australian birds noticed here, only the Spotless Crake (*Porzana plumbea*), *Herodias timorensis*, Large-tailed Nightjar (*Caprimulgus macrurus*), and Little Bronze-Cuckoo (*Chalcococcyx malayanus*). There were two museums, both belonging to colleges, but the local birds were fairly represented in them. From here I went to Hong Kong. On that island saw some Spine-tailed Swifts (*Chetura caudacuta*) hawking after insects, but otherwise no Australian forms were observed, but in any case bird-life here is scarce. My next ports of call were Nagasaki, Kobe, and Yokohama. I stayed nearly three weeks in Japan, where I found bird-life generally scarce, at least in the district I visited, but they seemed most plentiful near the foot of Mt. Fujiyama. It is here that the Japanese Snipe (*Gallinago australis*) is found nesting,* usually on the bare lower slopes of the mountains, but the young were mostly hatched at the time of my visit. Mr. R. A. D. Hood, who had been with me up to this time, returned to Melbourne. I went on to Vancouver in the "Empress" line of steamers. When well on my way in the northern seas I noticed two varieties of Albatross following the steamer—one with a white breast and back, the Short-tailed Albatross, breeds on the Laysan Islands; the other one seen was dark brown, the Black-footed Albatross. Many northern forms of sea-birds were observed in large numbers, especially the Little Auk, which preferred diving to flying when disturbed by the steamer. From Victoria I visited Tacoma, and then went on by train to Vancouver. At Victoria there was a nice local museum, with a fair collection of local fauna. From here I travelled by the Canadian Pacific railway through the Rocky Mountains, which are far too grand to describe with any degree of accuracy, and journeyed over the prairies, past the two neighbouring towns, Melbourne and Sydney, the latter being the larger, and on to Toronto *via* Winnipeg. A day was spent at the wonderful Niagara Falls, and Boston reached in the morning the Zoological Congress opened. Many interesting papers bearing on ornithology were read, and will probably appear in print in due course. I next visited Philadelphia, and in the local museum I looked through Gould's collection of Australian birds, and saw many of his type specimens. They were in very good order, and we hope to get

* Also see notice on Mr. C. Ingram's article, p. 200.—EDS.

a list of them for publication in *The Emu*. I took a photograph of the type specimen of *Diomedea cauta*, of especial interest to me. At Washington I remained five days, and went over the fine museums there, and looked over the work done by the Government in connection with insectivorous birds. A list is compiled of the various birds shot in each month of the year, with the contents of their stomachs, tabulated, and, in order that even the kinds of seed may be identified, they keep a sample stock of known seeds of weeds and other plants, so as to help the ornithologists in the identification. I then went to New York, where there is a splendid museum, with very good exhibits. Mr. Frank Chapman has constructed some bird-groups with painted background, which are most realistic and life-like; but it is difficult to pick out any individual exhibit when there are so many excellent ones. I was privileged to give an illustrated public lecture at the New York Museum on "Natural History in Australia." Crossing the Atlantic and arriving at Liverpool, I visited the Museum, which is under the care of Dr. H. O. Forbes, where I inspected some of Mr. Robinson's type specimens of Queensland birds, and noticed that among the skins of Lories, in which blue colour predominated, there was an albino, whereas in Australian Parrots that phase is usually yellow. There was also a mounted skin of a young Emu (*Dromæus novæ-hollandiæ*), which they thought might be the *Dromæus peroni*, but it is only the ordinary form.

In England much time was spent in the bird section of the British Museum, under Dr. Bowdler Sharpe. The mounted groups were perfect in their way. The Emu skins were all examined, including the type of the *Dromæus irroratus*, but it was only the skin of a young *D. novæ-hollandiæ*, probably about two years old, with the bars well marked, but they would all have disappeared should the bird have become adult. The examination of the two Tasmanian Emu skins (*D. diemenensis*) has been mentioned before.* This museum much needs more skins of Australian birds, especially in moulting phases, but they must have the colour of the soft parts and exact locality and date; that is what so many of the skins they have at present lack, and it naturally detracts from their usefulness and value. In company with Dr. Bowdler Sharpe and Mr. G. M. Mathews, I visited the Hon. Walter Rothschild's splendid museum at Tring, and was there enabled to examine many skins, such as those of the Albatross, the unique collection of Birds-of-Paradise, and many Australian forms; also the collection of Emu skins, including those from Western Australia, and it was noticed in these latter that the skins that had come from the districts with reddish soil had the feathers largely stained with that colour. In seeing many Emus alive in various Zoological Gardens, I hardly saw two exactly alike. Some had

longer legs than others, and some had much darker feathers; indeed, one specimen in Breslau was almost black on the back; but they are only varieties of the ordinary form. In Paris I saw the type specimen of *D. peroni*, the extinct form of Kangaroo Island, and consider it a good species, its feathers being considerably longer than the mainland variety, besides being darker in colour and smaller in size; it is difficult to judge its age.

In passing through Rotterdam, Antwerp, Hamburg, Berlin, Breslau, and Vienna, I was only able to inspect the Zoological Gardens in these cities, but in both the Berlin and Vienna Gardens I noticed many Australian birds, which were thriving, some having been in captivity for many years, but they all looked the picture of health. A list of the Australian birds at the Breslau Gardens appears elsewhere.* At Venice I saw the usual sight of the thousands of Pigeons at St. Mark's-square; when being fed by the public with grain they often alight on the hands, shoulders, &c., of the feeders, showing how tame they are. In London the number of tame Pigeons is also very large, and they nest on many public buildings, such as Parliament Houses, Westminster Abbey, the Law Courts, &c. At Rome two Eagles are kept in captivity by the steps leading to the ruins of the old Roman forum; also two wolves near, in remembrance presumably of Romulus and Remus. I was told that they had lately found the tomb of these two latter, and saw the excavation. In the Zoological Gardens at Giza, about half-way between the Pyramids and Cairo, I saw many forms of European birds, and in these gardens Night-Herons roost during the day, and at night go to the river flat to feed, in exactly the same way in which the wild Night-Herons (*N. caledonicus*) do in the Melbourne Zoological Gardens. They also have three specimens of that curious Stork the Shoebill (*Balaeniceps rex*). Many Purple Gallinules (*Porphyrio caruleus*) were noticed in the flooded fields near the town. Pelicans and Flamingoes were seen, as usual, in great numbers in the swamps bordering the canal, and hosts of smaller water-fowl, including Dottrels, Plovers, Stints, &c., &c., but too far off to distinguish clearly. On coming into the Southern Ocean three species of Albatross were seen following the steamer—the Royal, Wandering, and White-capped—but the first-named was the most plentiful.—D. LE SOUËF. Melbourne, 20th 08.

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HANLIST

OF THE

BIRDS OF AUSTRALASIA

BY

GREGORY M. MATHEWS

F.L.S., F.Z.S., M.B.O.U., &c.

WITH AN INTRODUCTORY LETTER

BY

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Melbourne:

WALKER, MAY & CO., PRINTERS, MACKILLOP STREET
(OFF 390 LITTLE COLLINS STREET)
1908.

PREFACE.

FOR some years past it has been in my mind to publish a set of coloured illustrations of the birds of my native country, and my residence in England now gives me the opportunity of compassing my desire.

Before commencing this weighty task it has occurred to me that it would be useful to publish a "Handlist of the Birds of Australasia," to invoke the criticism and co-operation of ornithologists, in order to enhance the value of my larger undertaking.

This List is founded upon the "Handlist of Birds" by Dr. Bowdler Sharpe, who has promised me his support, and has, as will be seen over, encouraged me to commence the task of publishing my proposed work "The Coloured Figures of the Birds of Australasia." Dr. Sharpe has very kindly lent me the proofs of the fifth volume of his "Handlist" (now in the press) to enable me to make my own "Handlist" more complete. I also have the support of the Hon. Walter Rothschild and Dr. Hartert, of the Tring Museum, as well as of other eminent ornithologists.

Within the last few years, however, the principal additions to our knowledge of Australian birds have been due to the work of Australian naturalists, notably to Mr. A. J. North, of the Australian Museum, Sydney, Messrs. D. Le Souëf, A. J. Campbell, and Robert Hall, of Melbourne, and many other naturalists whose names are too numerous to mention here, but to whom I hope to do justice in my larger work.

This "Handlist," like all compilations of the kind, is sure to contain imperfections, especially as regards geographical distribution. In the course of his work at the Natural History Museum the attention of the author has been frequently drawn by Dr. Bowdler Sharpe to the want of exact definition of the ranges of many of the Australian species, and though such wide terms as "New South Wales," "Queensland," &c., are sufficient for a general handlist of birds such as that published by the British Museum, it is only in the fifth volume of that work that the ranges of Australian birds are given with any attempt at exact definition, from notes supplied by Mr. A. J. North. The author will, therefore, be grateful to any of his brother ornithologists who will send him notes on the geographical ranges of any species, as well as any observations on habits, nesting, food, migration, &c., for all of which he promises full acknowledgment in his forthcoming work.

My intention is to publish a set of hand-coloured plates of the birds of Australasia, drawn by Mr. J. G. Keulemans, to which work this "Handlist" is a preliminary. In preparing the latter

I have referred to the works of my predecessors in the same field of inquiry, with the following abbreviations:—

G = Gould's "Handbook of the Birds of Australia," 1865.

R = Ramsay's "Tabular List of the Birds of Australia," 1888.

C = Campbell's "Nests and Eggs of Australian Birds," 1900.

N = North's "Nests and Eggs of Birds found Breeding in Australia and Tasmania," 1901, &c.

H = Hall's "Key to the Birds of Australia," 1906.

GREGORY M. MATHEWS.

Langley Mount, Watford, Herts, England,

November, 1907.

[LETTER.]

British Museum (Nat. Hist.),

South Kensington, 20th Oct., 1907.

My Dear Sir,

I have perused your "Handlist of Australian Birds" with much interest, and it gives me great pleasure to welcome you to this Museum, where every facility shall be given you for working out your project of publishing the "Coloured Figures of the Birds of Australasia," and I am glad to hear that the Hon. Walter Rothschild has given you similar facilities at his museum at Tring.

I think it a wise step on your part to issue a "Handlist" of Australian birds, as it will clear the ground before commencing your larger work, and by your references to Gould, Ramsay, North, Campbell, and Hall, you will give full credit to those excellent naturalists, who have laid the foundation of all future work on the birds of Australia.

No one can doubt that the time has arrived for the issue of a new work on Australian birds, illustrated with coloured plates, as Gould's work has been long out of print and is very costly. Since the date of his "Handbook," too, a school of excellent observers has arisen in the southern continent, whose work has greatly enlarged our knowledge of Australian ornithology. Having lived in different parts of the continent yourself, and having now the leisure for working, together with a very complete library of books on the natural history of Australia, I know no one better equipped for such a task as you are about to inflict on yourself.

I feel certain, too, that the support of our colonial colleagues will be gladly given to your endeavour, and I am also sure that they will receive full acknowledgment for all their help. This is particularly necessary in a work like yours, so that everyone who contributes shall recognise that his notes will be published *in extenso*, and that he will receive the full credit for his assistance. I am sure that your appeal for help will meet with a ready response from Australian naturalists.

As regards your "Handlist," I think that this will serve a useful purpose, as it will supplement, to a certain degree, the useful "Key" published by Mr. Robert Hall, and the older lists of Gould and Dr. Ramsay. It will form a groundwork for your larger publication, of which it may be considered the starting-point.

Wishing you every success,

Believe me,

Yours very sincerely,

R. BOWDLER SHARPE.

To Gregory M. Mathews.

Class. AVES.

Sub-Class I. PALÆOGNATHÆ.

(Pycraft, J. Linn. Soc., xxviii., pp. 343-357, pls. 31, 32, 1901.)

Order I. CASUARIIFORMES.

(Sharpe, Handl. B., i., p. 2, 1899.)

Family I. DROMÆIDÆ.

(Sharpe, t. c., p. 2.)

I. DROMÆUS, Vieill.

(Sharpe, t. c., p. 2.)

1. NOVÆ-HOLLANDIÆ, *Lath.* (p. 2). Australia generally.

[*ater*, *Vieill.* Cf. Rothschild's
"Extinct Birds," p. 235
(1907); *irroratus*, Bartlett;
G., pp. 200, 204; R., p. 19;
C., ii., pp. 1,058, 1,066;
p. 109.]

2. DIEMENENSIS, **Le Souëf.* Tasmania (extinct).

[Cat. Aust. Bds., Eggs, and
Nests, p. 23 (1904).]

3. PERONI, *Rothschild.* Kangaroo Is. (extinct).

[Rothschild's "Extinct
Birds," p. 235, pl. 40 (1907);
ater (*nec* *Vieill.*), *auct.*; C.,
ii., p. 1,068; H., p. 109.]

Family II. CASUARIIDÆ.

(Sharpe, t. c., p. 3.)

II. CASUARIUS, *Briss.*

(Sharpe, t. c., p. 3.)

4. AUSTRALIS, *Wall.* (p. 3). N.E. Queensland.

[G., ii., p. 206; R., p. 19; C.,
ii., p. 1069; H., p. 109.]

*Professor Baldwin Spence, F.R.S., has named the extinct Emu of King Island, Bass Strait, *D. minor*, from a number of bones he has examined from that locality. *Vide Victorian Naturalist*, vol. xxiii., pp. 139, 140, 1906.—A.J.C.

Sub-Class II. NEOGNATHÆ.

(Pycraft, J. Linn. Soc., xxviii., pp. 343-357, pls. 31, 32, 1901.)

Order II. GALLIFORMES.

(Sharpe, Handl. B., i., p. 12, 1899.)

Sub-Order I. MEGAPODII.

(Sharpe, *t. c.*, p. 12.)

Family I. MEGAPODIIDÆ.

(Sharpe, *t. c.*, p. 12.)III. MEGAPODIUS, *Quoy and Gaim.*(Sharpe, *t. c.*, p. 12.)

5. TUMULUS, *Gould* (p. 13, pt.) Northern Territory,
 [Cf. Hartert, Nov. Zool., p. Queensland.
 136 (1901); G., ii., p. 167;
 R., p. 18; C., ii., p. 715; H.,
 p. 74.]

IV. LIPOA, *Gould*.(Sharpe, *t. c.*, p. 13.)

6. OCELLATA, *Gould* (p. 13). New South Wales,
 [G. ii., p. 155; R., p. 18; C., Victoria, S. Australia.
 ii., p. 698; H., p. 74.] W. Australia.

V. CATHETURUS, *Swains.*(Sharpe, *t. c.*, p. 14.)

7. LATHAMI, *Lath.* (p. 14). Queensland to New
 [G., ii., p. 150; R., p. 18; C., South Wales.
 ii., p. 708; H., p. 74.]

8. PURPUREICOLLIS, *Le Souëf*. (p. 14). Cape York.
 [Ibis, 1898, p. 51; C., ii., p.
 714; H., p. 74.]

Sub-Order II. PHASIANA.

(Sharpe, *t. c.*, p. 18.)

Family I. PHASIANIDÆ.

(Sharpe, *t. c.*, p. 21.)VI. COTURNIX, *Bonn.*(Sharpe, *t. c.*, 31.)

9. PECTORALIS, *Gould* (p. 31). Queensland to New
 [G., ii., p. 191; R., p. 19; C., South Wales, Vic-
 ii., p. 721; H., p. 73.] toria, Tasmania, S.
 Australia, W. Aus-
 tralia.

VII. SYNÆCUS, *Gould.*(Sharpe, *t.c.*, p. 31.)

10. AUSTRÁLIS, *Temm.* (p. 31).
[G., ii., p. 193; R., p. 19; C., ii., p. 724; H., p. 73.] Australia generally, Tasmania.

11. DIEMENENSIS, *Gould* (p. 31, pt.)
[G., ii., p. 194; R., p. 19; C. ii., p. 727; H., p. 73.] Tasmania and Is. of Bass Strait, Victoria.

12. SORDIDUS, *Gould* (p. 31, pt.)
[G., ii., p. 195; R., p. 19; C., ii., p. 725; H., p. 73.] W. Australia.

13. CERVINUS, *Gould* (p. 31, pt.)
[G., ii., p. 195; R., p. 19; C., ii., p. 725; H., p. 73.] N. Australia.

VIII. EXCALFACTORIA, *Bp.*(Sharpe, *t. c.*, p. 32.)

14. LINEATA, *Scop.* (p. 32).
[G., ii., p. 197; R., p. 19; C., ii., p. 728; H., p. 73.] Queensland, New South Wales, Victoria, S. Australia.

Order III. TURNICIFORMES.

(Hemipodii, Sharpe, *Handl. B.*, i., p. 48, 1899.)

Family I. TURNICIDÆ.

(Sharpe, *t. c.*, p. 48.)IX. TURNIX, *Bonn.*(Sharpe, *t. c.*, p. 48.)

15. MACULOSA, *Temm.* (p. 49).
[G., ii., p. 182; R., p. 18; C., ii., p. 730; H., p. 74.] N. Australia, Queensland, New South Wales, Victoria, S. Australia (S.E. New Guinea, S.E. Celebes).

16. MELANOGASTER, *Gould* (p. 49).
[G., ii., p. 178; R., p. 18; C., ii., p. 730; H., p. 75.] Queensland, New South Wales.

17. VARIA, *Lath.* (p. 49).
[G., ii., pp. 179, 181; R., p. 18; C., ii., p. 731; H., p. 75.] Australia generally, Tasmania.

18. CASTANONOTA, *Gould* (p. 49).
[G., ii., p. 183; R., p. 18; C., ii., p. 733; H., p. 75.] Northern Territory, N. Queensland, N.W. Australia.

19. OLIVEI, *Robinson*.
[Bull. B.O.C., x., p. 48 (1900); C., ii. p. 1,083; H., p. 114.] N. Queensland.

20. PYRRHOTHORAX, *Gould* (p. 49). Northern Territory,
 [G., ii., p. 186; R., p. 19; C., Queensland to New
 ii., p. 733; H., p. 75.] South Wales, Victoria, S. Australia.

21. VELOX, *Gould* (p. 49). Australia generally.
 [G. ii., p. 184; R., p. 18; C.,
 ii., p. 734; H., p. 75.]

X. PEDIONOMUS, *Gould*.
 (Sharpe, *t. c.*, p. 49.)

22. TORQUATUS, *Gould* (p. 49). New South Wales,
 [G., ii., p. 187; R., p. 19; C., Victoria, S. Australia,
 ii., p. 737; H., p. 76.] Central Australia.

Order IV. COLUMBIFORMES.

(Sharpe, *Handl. B.*, i., p. 51, 1899.)

Sub-Order I. COLUMBÆ.

(Sharpe, *t. c.*, p. 41.)

Family I. TRERONIDÆ.

(Sharpe, *t. c.*, p. 51.)

Sub-Family I. PTILOPODINÆ.

(Sharpe, *t. c.*, p. 55.)

XI. LEUCOTRERON, *Bp.*

(Sharpe, *t. c.*, p. 55.)

23. ALLIGATOR, *Collett.* Northern Territory,
 [P.Z.S., 1898, p. 354, pl. Arnhem Land.
 xxix.; C., ii., p. 663; H., p. 69.]

XII. PTILOPOUS, *Swains.*

(Sharpe, *t. c.*, p. 56.)

24. SWAINSONI, *Gould* (p. 57). Queensland to New
 [G., ii., p. 106; R., p. 17; C., South Wales, Torres
 ii., p. 661; H., p. 69.] Strait (S.E. New
 Guinea).

25. EWINGI, *Gould* (p. 57). Cape York, Northern
 [G., ii., p. 107; R., p. 17; C., Territory.
 ii., p. 663; H., p. 69.]

XIII. LAMPROTRERON, *Bp.*
(Sharpe, *t. c.*, p. 58.)

26. SUPERBA, *Temm.* and *Knip.* (p. 58).
[G., ii., p. 108; R., p. 17; C., ii., p. 664; H., p. 69.]

Northern Territory, Queensland, New South Wales, Tasmania (*accid.*), Bismarck Archipelago, Papuan Is., Molucca Is.)

XIV. MEGALOPREPIA, *Reichenb.*
(Sharpe, *t. c.*, p. 62.)

27. MAGNIFICA, *Temm.* (p. 62).
[G., ii., p. 110; R., p. 17; C., ii., p. 666; H., p. 69.]

Queensland to New South Wales.

28. ASSIMILIS, *Gould* (p. 62).
[G., ii., p. 111; R., p. 18; C., ii., p. 667; H., p. 69.]

N. Queensland.

Sub-Family II. CARPOPHAGINÆ.
(Sharpe, *t. c.*, p. 63.)

XV. MYRISTICIVORA, *Reichenb.*
(Sharpe, *t. c.*, p. 67.)

29. SPILORHIOA, *Gray* (p. 67).
[G., ii., p. 114; R., p. 18; C., ii., p. 668; H., p. 69.]

Northern Territory, N. Queensland (New Guinea, Arnhem Is.)

XVI. LOPHOLÆMUS, *Gray*.
(Sharpe, *t. c.*, p. 68.)

30. ANTARCTICUS, *Shaw* (68).
[G., ii., p. 116; R., p. 18; C., ii., p. 671; H., p. 70.]

S. and S.E. Australia, Tasmania.

Family II. COLUMBIDÆ.
(Sharpe, *t. c.*, p. 68.)

Sub-Family I. COLUMBINÆ.
(Sharpe, *t. c.*, p. 68.)

XVII. COLUMBA, *Linn.*
(Sharpe, *t. c.*, p. 72.)

31. LEUCOMELA, *Temm.* (p. 72).
[G., ii., p. 112; R., p. 18; C., ii., p. 672; H., p. 70.]

Queensland to New South Wales.

Sub-Family II. MACROPYGIINÆ.

(Sharpe, *t. c.*, p. 73.)XVIII. MACROPYGIA, *Swains.*(Sharpe, *t. c.*, p. 73.)

32. PHASIANELLA, *Temm.* (p. 74). Northern Territory,
[G., ii., p. 148; R., p. 18; C., Queensland, New
ii., p. 674; H., p. 70.] South Wales.

Family III. PERISTERIDÆ.

(Sharpe, *t. c.*, p. 76.)

Sub-Family I. GEOPELIINÆ.

(Sharpe, *t. c.*, p. 80.)XIX. GEOPELIA, *Swains.*(Sharpe, *t. c.*, p. 80.).

33. HUMERALIS, *Temm.* (p. 80). N.W. and W. Australia,
[G., ii., p. 142; R., p. 18; C., Northern Territory,
ii., p. 675; H., p. 70.] Queensland,
New South Wales
(S. New Guinea).

34. PLACIDA, *Gould* (p. 80). Australia generally.
[*tranquilla*, G., ii., p. 144; R.,
p. 18; C., ii., p. 676; H.,
p. 71.]

35. CUNEATA, *Lath.* (p. 80). Australia generally.
[G., ii., p. 146; R., p. 18; C.,
ii., p. 678; H., p. 71.]

Sub-Family II. PHABINÆ.

(Sharpe, *t. c.*, p. 83.)XX. CHALCOPHAPS, *Gould.*(Sharpe, *t. c.*, p. 83.)

36. CHRYSOCHLORA, *Gould* (p. 83). Northern Territory,
[G., ii., pp. 118, 119; R., p. 18; C., ii., p. 679; H., p. 71.] Queensland, New South Wales, Victoria (Molucca Is., New Hebrides, &c., Lord Howe Is.)

XXI. PHAPS, *Selby.*(Sharpe, *t. c.*, p. 84.)

37. CHALCOPTERA, *Lath.* (p. 84). Australia generally,
[G., ii., p. 122; R., p. 18; C., ii., p. 680; H., p. 71.] Tasmania.

38. ELEGANS, *Temm.* and *Knip.* (p. Australia generally,
84.) Tasmania, Is. of
[G., ii., p. 125; R., p. 18; C., Bass Strait.
ii., p. 683; H., p. 71.]

XXII. HISTRIOPHAPS, *Salvad.*
(Sharpe, *t. c.*, p. 84.)

39. HISTRIONICA, *Gould* (p. 84). Central Australia,
[G., ii., p. 127; R., p. 18; C., Queensland, New
ii., p. 684; H., p. 71.] South Wales, Northern
Territory, N.W. Australia.

XXIII. PETROPHASSA, *Gould*.
(Sharpe, *t. c.*, p. 85.)

40. ALBIPENNIS, *Gould* (p. 85). N.W. Australia.
[G., ii., p. 141; R., p. 18; C.,
ii., p. 688; H., p. 71.]

41. RUFIPENNIS, *Collett* (p. 85). Northern Territory
[C., ii., p. 688; H., p. 71.] (Armhem Land).

XXIV. GEOPHAPS, *Gould*.
(Sharpe, *t. c.*, p. 85.)

42. SCRIPTA, *Temm.* (p. 85). Queensland, New
[G., ii., p. 130; R., p. 18; C., South Wales, Central
ii., p. 689; H., p. 72.] Australia, N.W. Australia.

43. SMITHI, *Jard.* and *Selby* (p. 85). N.W. Australia, Northern
[G., ii., p. 133; R., p. 18; C., Territory.
ii., p. 691; H., p. 72.]

XXV. LOPHOPHAPS, *Reichenb.*
(Sharpe, *t. c.*, p. 85.)

44. FERRUGINEA, *Gould* (p. 85). Central Australia, W.
[G., ii., p. 137; R., p. 18; C., Australia, N.W.
ii., p. 692; H., pp. 72, 116.] Australia.

45. PLUMIFERA, *Gould* (p. 85). Northern Territory,
[G., ii., p. 135; R., p. 18; C., Central Queensland,
ii., pp. 691, 693; H., p. 72; S. Australia.
leucogaster, *Gould*. Cf.
Hartert, Nov. Zool., xii., p.
198.]

XXVI. OCYPHAPS, *Gould*.
(Sharpe, *t. c.*, p. 85.)

46. LOPHOTES, *Temm.* (p. 85). Australia generally.
[G., ii., p. 139; R., p. 18; C.,
ii., p. 695; H., p. 72.]

Sub-Family III. GEOTRYGONINÆ.

(Sharpe, *t. c.*, p. 85.)

XXVII. LEUCOSARCIA, *Gould.*

(Sharpe, *t. c.*, p. 90.)

47. PICATA, *Lath.* (p. 90). Queensland, New South Wales, Victoria.
[G., ii., p. 120; R., p. 18; C., ii., p. 696; H., p. 73.]

Order V. RALLIFORMES.

(Sharpe, Handl. B., i., p. 93, 1899.)

Family I. RALLIDÆ.

(Sharpe, *t. c.*, p. 93.)

XXVIII. HYPOTÆNIDIA, Reichenb.

(Sharpe, *t. c.*, p. 95.)

48. BRACHYPUS, *Swains.* (p. 96).
 [G., ii., p. 336; R., p. 21; C.,
 ii., p. 739; H., p. 76.]

S. Queensland to New
 South Wales, Vic-
 toria, Tasmania, S.
 Australia, W. Aus-
 tralia (New Zea-
 land).

49. PHILIPPINENSIS, Linn. (p. 96). Australia generally, Tasmania (New Zealand, Malay Archipelago, Is. of Pacific Ocean).
[G., ii., p. 334; R., p. 21; C., ii., p. 740; H., p. 76.]

XXIX. EULABEORNIS, *Gould.*

(Sharpe, *t. c.*, p. 97.)

50. CASTANEIVENTER, *Gould* (p. 97). Northern Territory, N.
[G., ii., p. 338; R., p. 21; C., Queensland.
ii., p. 742; H., p. 76.]

XXX. RALLINA, *Reichenb.*

(Sharpe, *t. c.*, p. 99.)

51. TRICOLOR, *Gray* (p. 100).
[C., ii., p. 742; H., p. 76.]

XXXI. CREX. Bechst.

(Sharpe, *t. c.*, p. 100.)

52. CEX, *Linn.* (p. 100).
[C., ii., p. 744; H., p. 76.]

XXXII. PORZANA, Vieill.

(Sharpe, *t. c.*, p. 101.)

53. FLUMINEA, *Gould* (p. 101).
[G., ii., p. 339; R., p. 21; C.,
ii., p. 745; H., p. 77.]

N. Queensland (Papuan Is., Aru Is.)

New South Wales
(accid.) (Europe
and Asia, Africa in
winter).

Queensland, New
South Wales, Vic-
toria, Tasmania, S.
Australia.

54. **PALUSTRIS**, *Gould* (p. 102).
 [G., ii., p. 340; R., p. 21; C.,
 ii., p. 747; H., p. 77.] S. Queensland, New South Wales, Victoria, Tasmania, S. Australia, W. Australia.

55. **PLUMBEA**, *Gray* (p. 102).
 [G., ii., p. 341; R., p. 25; C.,
 ii., p. 748; H., p. 77.] Australia generally (Pacific Is., New Zealand, Philippine Is.)

XXXIII. **POLIOLIMNAS**, *Sharpe*.
 (Sharpe, *t. c.*, p. 104.)

56. **CINEREUS**, *Vicill*.
 [G., ii., p. 343; R., p. 21; C.,
 ii., p. 749; H., p. 77.] Northern Territory, Queensland (Oceania, Molucca Is., Malay Peninsula, Greater and Lesser Sunda Is.)

XXXIV. **AMAUORNIS**, *Reichenb.*
 (Sharpe, *t. c.*, p. 106.)

57. **MOLUCCANA**, *Wall.* (p. 106).
 [R., p. 21; C., ii., p. 751; H.,
 p. 77.] Northern Territory, Queensland (Papuan Is., Molucca Is.)

XXXV. **TRIBONYX**, *Du Bus.*
 (Sharpe, *t. c.*, p. 106.)

58. **MORTIERI**, *Du Bus* (p. 106).
 [G., ii., p. 324; R., p. 21; C.,
 ii., p. 752; H., p. 77.] S. Australia (?), Tasmania.

XXXVI. **MICROTRIBONYX**, *Sharpe*.
 (Sharpe, *t. c.*, p. 107.)

59. **VENTRALIS**, *Gould* (p. 107).
 [G., ii., p. 325; R., p. 21; C.,
 ii., p. 752; H., p. 77.] Australia generally.

XXXVII. **GALLINULA**, *Briss.*
 (Sharpe, *t. c.*, p. 107.)

60. **TENEBROSA**,* *Gould* (p. 107).
 [G., ii., p. 328; R., p. 21; C.,
 ii., p. 754; H., p. 78.] Australia generally (S. New Guinea).

XXXVIII. **PORPHYRIO**, *Briss.*
 (Sharpe, *t. c.*, p. 108.)

61. **BELLUS**, *Gould* (p. 109).
 [G., ii., p. 322; R., p. 21; C.,
 ii., p. 756; H., p. 78.] N. and N.W. Australia, W. Australia.

*According to the "Handlist of Birds Brit. Mus." (Sharpe), *G. frontata* is an Australian bird. For remarks see Hall's "Key," p. 116.—A.J.C.

62. MELANONOTUS, *Temm.* (p. 109). Australia generally,
 [G., ii., p. 321; R., p. 21; C., Tasmania, Norfolk
 ii., p. 757; H., p. 78.] Is., Lord Howe Is.
 (New Zealand, New Guinea, Molucca Is.)

XXXIX. NOTORNIS, *Owen.*
 (Sharpe, *t. c.*, p. 109.)

63. ALBUS, *White* (p. 109). Lord Howe Is., Norfolk
 [Extinct, R., p. 38.] Is.

XL. FULICA, *Linn.*
 (Sharpe, *t. c.*, p. 109.)

64. AUSTRALIS, *Gould* (p. 110). Australia generally,
 [G., ii., p. 329; R., p. 21; C., Tasmania.
 ii., p. 758; H., p. 78.]

Order VI. PODICIPEDIDIFORMES

(Sharpe, *Handl. B.*, i., p. 113, 1899.)

Family I. PODICIPEDIDÆ.

XLI. PODICIPES, *Lath.*

(Sharpe, *t. c.*, p. 113.)

65. NOVÆ-HOLLANDIÆ, *Steph.* (p. 113). Australia generally,
 [G., ii., p. 513; R., p. 22; C., Tasmania (New
 ii., p. 1,002; H., p. 104.) Guinea, Java, New
 Caledonia).

66. POLIOCEPHALUS, *Jard. and Selby* Australia generally,
 (p. 113). Tasmania.
 [G., ii., p. 512; R., p. 22; C.,
 ii., p. 1,003; H., p. 104.]

XLII. LOPHÆTHYIA, *Kaup.*

(Sharpe, *t. c.*, p. 114.)

67. CRISTATA, *Linn.* (p. 114.) Australia generally,
 [G., ii., p. 511; R., p. 22; C., Tasmania (New
 ii., p. 1,004; H., p. 104.) Zealand, Indian
 Peninsula, N. Asia, N. Japan, Africa,
 Europe).

Order VII. SPHENISCIFORMES.

(Sharpe, *Handl. B.*, i., p. 117, 1899.)

Family I. SPHENISCIDÆ.

(Sharpe, *t. c.*, p. 117.)

XLIII. APTENODYTES, *Forster.*

(Sharpe, *t. c.*, p. 117.)

68. FORSTERI, *Gray* (p. 117). Antarctica.

XLIV. PYGOSCELIS, *Wagler.*
(Sharpe, *t. c.*, p. 118.)

69. ADELLÆ, *Hombr. and Jacq.* (p. Antarctica.
118.)

XLV. CATARRHACTES, *Briss.*
(Sharpe, *t. c.*, p. 118.)

70. CHRYSOCOME, *Forster* (p. 118).
[G., ii., p. 517; R., p. 22; C.,
ii., p. 1,007; H., p. 105.] Coasts of New South
Wales, Victoria,
South and W. Aus-
tralia, Tasmania
(New Zealand, Ker-
guelen Land).

XLVI. EUDYPTULA, *Bp.*
(Sharpe, *t. c.*, p. 119.)

71. MINOR, *Forster* (p. 119).
[G., ii., p. 518; R., p. 22; C.,
ii., p. 1,010; H., p. 105.] Coasts of New South
Wales, Victoria,
South and W. Aus-
tralia, Tasmania
(New Zealand).

72. UNDINA, *Gould* (p. 119, pt.)
[G., ii., p. 521; R., p. 22; C.,
ii., p. 1,012.] Coasts of Victoria,
Tasmania (New Zea-
land).

Order VIII. PROCELLARIIFORMES.

(Sharpe, *Handl. B.*, i., p. 120, 1899.)

Family I. PROCELLARIIDÆ.

(Sharpe, *t. c.*, p. 120.)

Sub-Family I. OCEANITINÆ.

(Sharpe, *t. c.*, p. 122.)

XLVII. OCEANITES, *Keys and Blas.*
(Sharpe, *t. c.*, p. 122.)

73. OCEANICA, *Kuhl.* (p. 122).
[G., ii., p. 478; R., p. 24; C.,
ii., p. 869; H., p. 91.] Australian Seas (Ant-
arctica, Indian
Ocean, Atlantic
Ocean).

XLVIII. GARRODIA, *Forbes.*
(Sharpe, *t. c.*, p. 122.)

74. NEREIS, *Gould* (p. 122).
[G., ii., p. 476; R., p. 24; C.,
ii., p. 871; H., p. 91.] Australian Seas (New
Zealand, Kerguelen
Land, Falkland Is.)

XLIX. PELAGODROMA, *Reichenb.*
(Sharpe, *t. c.*, p. 122.)

75. MARINA, *Lath.* (p. 122.)
[G., ii., p. 482; R., p. 24; C.,
ii., p. 872; H., p. 91.] Australian Seas (At-
lantic Ocean).

L. FREGETTA, *Bp.*(Sharpe, *t. c.*, p. 122.)

76. MELANOGASTER, *Gould* (p. 122). Australian Seas (Atlantic Ocean).
[G., ii., p. 479; R., p. 24; C., ii., p. 874; H., p. 92.]

77. GRALLARIA, *Vieill.* (p. 122). Australian Seas (Atlantic Ocean, Pacific Ocean).
[G., ii., p. 480; R., p. 24; C., ii., p. 875; H., p. 92.]

Family II. PUFFINIDÆ.

(Sharpe, *t. c.*, p. 123.)

Sub-Family I. PUFFININÆ.

(Sharpe, *t. c.*, p. 123.)LI. PUFFINUS, *Briss.*(Sharpe, *t. c.*, p. 123.)

78. LEUCOMELAS, *Temm.* (p. 123). Australian Seas (N. to Japan and Corea).
[C., ii., p. 893; H., p. 92.]

79. CHLORORHYNCHUS, *Less.* (p. 123). Australian Seas (Indian Ocean, Pacific Ocean).
[G., ii., p. 466; R., p. 24; C., ii., p. 876; H., p. 92.]

80. ASSIMILIS, *Gould* (p. 124). Australian Seas (Atlantic Ocean).
[G., ii., p. 458; R., p. 24; C., ii., p. 878; H., p. 92.]

81. CARNEIPES *Gould* (p. 124). Australian Seas (New Zealand to Japan).
[G., ii., p. 465; R., p. 24; C., ii., p. 880; H., p. 92.]

82. GRISEUS, *Gm.* (p. 124). Australian Seas (Atlantic Ocean, Pacific Ocean).
[C., ii., p. 893; H., p. 92.]

83. GAVIA, *Forster* (p. 124). Australian Seas (New Zealand).
[C., ii., p. 894; H., p. 92.]

84. TENUIROSTRIS, *Temm.* (p. 124). Australian Seas (Pacific Ocean, New Zealand N. to Japan).
[G., ii., p. 459; R., p. 24; C., ii., p. 882; H., p. 93.]

LII. PRIOFINUS, *Hombr. and Jacq.*(Sharpe, *t. c.*, p. 124.)

85. CINEREUS, *Gm.* (p. 124). Australian Seas (Indian Ocean, Pacific Ocean, Atlantic Ocean).
[G., ii., p. 446; R., p. 24; C., ii., p. 895; H., p. 93.]

LIII. THALASSŒCA, *Reichenb.*(Sharpe, *t. c.*, p. 125.)

86. ANTARCTICA, *Gm.* (p. 125). Australian Seas (Antarctica).

LIV. PRIOCELLA, *Hombr. and Jacq.*
(Sharpe, *t. c.*, p. 125.)

87. GLACIALOIDES, *Smith* (p. 125). Australian Seas (Antarctica).
[G., *ii.*, p. 467; R., p. 24; C.,
ii., p. 897; H., p. 93.]

LV. MAJAQUEUS, *Reichenb.*
(Sharpe, *t. c.*, p. 125.)

88. AÉQUINOCTIALIS, *Linn.* (p. 125). Australian Seas (Atlantic Ocean).
[G., *ii.*, p. 445; R., p. 23; C.,
ii., p. 897; H., p. 93.]

89. PARKINSONI, *Gray* (p. 125). Australian Seas (New Zealand).
[R., p. 23; C., *ii.*, p. 899; H.,
p. 93.]

LVI. ÆSTRELATA, *Bp.*
(Sharpe, *t. c.*, p. 125.)

90. MACROPTERA, *Smith* (p. 125). Australian Seas.
[G., *ii.*, p. 449; R., p. 24; C.,
ii., p. 902; H., p. 93.]

91. LESSONI, *Garn.* (p. 125). Australian Seas (New Zealand, S. Indian Ocean).
[G., *ii.*, p. 451; R., p. 24; C.,
ii., p. 904; H., p. 93.]

92. MOLLIS, *Gould* (p. 125). Australian Seas (S. Atlantic Ocean, S. Indian Ocean).
[G., *ii.*, p. 453; R., p. 24; C.,
ii., p. 906; H., p. 94.]

93. BREVIPES, *Peale* (p. 126). Australian Seas (Antarctica, Pacific Ocean).

94. SOLANDERI, *Gould* (p. 126). Australian Seas.
[G., *ii.*, p. 450; R., p. 24; C.,
ii., p. 907; H., p. 94.]

95. NEGLECTA, *Schl.* (p. 126). Australian Seas.

96. GULARIS, *Peale* (p. 126). Australian Seas (Antarctic Ocean, New Zealand).

97. LEUCOPTERA, *Gould* (p. 126). Australian Seas.
[G., *ii.*, p. 454; R., p. 24; C.,
ii., p. 907; H., p. 94.]

98. COOKI, *Gray* (p. 126). Australian Seas (New Zealand).
[G., *ii.*, p. 456; R., p. 24; C.,
ii., p. 908; H., p. 94.]

LVII. PAGODROMA, *Bp.*
(Sharpe, *t. c.*, p. 127.)

99. NIVEA, *Gm.* (p. 127). (Antarctica).

Sub-Family II. FULMARINÆ.

(Sharpe, *t. c.*, p. 127.)LVIII. MACRONECTES, *Richmond.*(Richmond, *P. Biol. Soc. Washington*, xviii., p. 76, 1905; *Ossifraga*, Hombr. and Jacq., *nec* Wood; Sharpe, *t. c.*, p. 127.)

100. GIGANTEA, *Gm.* (p. 127). Australian Seas (Antarctica, Atlantic Ocean).
[G., ii., p. 443; R., p. 23; C., ii., p. 909; H., p. 94.]

LIX. DAPTION, *Steph.*(Sharpe, *t. c.*, p. 127.)

101. CAPENSIS, *Linn.* (p. 127). Australian Seas (Atlantic Ocean, Indian Ocean).
[G., ii., p. 469; R., p. 24; C., ii., p. 911; H., p. 94.]

LX. HALOBÆNA, *Is. Geoffr.*(Sharpe, *t. c.*, p. 127.)

102. CÆRULEA, *Gm.* (p. 127). Australian Seas (New Zealand, S. Atlantic Ocean).
[G., ii., p. 457; R., p. 24; C., ii., p. 913; H., p. 95.]

LXI. PRION, *Lacep.*(Sharpe, *t. c.*, p. 128.)

103. VITTATUS, *Gm.* (p. 128). Australian Seas (S. Atlantic Ocean).
[G., ii., p. 474; R., p. 24; C., ii., p. 914; H., p. 95.]

104. BANKSI, *Gould* (p. 128). Australian Seas (S. Atlantic Ocean).
[G., ii., p. 474; R., p. 24; C., ii., p. 915; H., p. 95.]

105. DESOLATUS, *Gm.* (p. 128). Australian Seas (Antarctic Seas, S. Atlantic Ocean).
[G., ii., p. 472; R., p. 24; C., ii., p. 916; H., p. 95.]

106. ARIEL, *Gould* (p. 128). Australian Seas (Atlantic Ocean).
[G., ii., p. 473; R., p. 24; C., ii., p. 918; H., p. 95.]

Family III. PELECANOIDIDÆ.

(Sharpe, *t. c.*, p. 128.)LXII. PELECANOIDES, *Lacep.*(Sharpe, *t. c.*, p. 128.)

107. URINATRIX, *Gm.* (p. 128). Australian Seas (New Zealand).
[G., ii., p. 483; R., p. 24; C., ii., p. 919; H., p. 95.]

Family IV. DIOMEDEIDÆ.

(Sharpe, t. c., p. 128.)

LXIII. DIOMEDEA, *Linn.*

(Sharpe, t. c., p. 128.)

108. ALBATRUS, *Pall.* (p. 128). Australian Seas (N.
[G., ii., p. 433; R., p. 23; C., Pacific Ocean).
ii., p. 925; H., p. 96.]

109. EXULANS, *Linn.* (p. 128). Australian Seas (At-
[G., ii., p. 427; R., p. 23; C., lantic Ocean).
ii., p. 921; H., p. 95.]

110. REGIA, *Buller* (p. 128). Australian Seas.

111. CHIONOPTERA, *Salvin* (p. 128). Australian Seas.

112. MELANOPHRYNS, *Temm.* (p. 128). Australian Seas (Ant-
[G., ii., p. 438; R., p. 23; C., arctic Ocean).
ii., p. 926; H., p. 96.]

LXIV. THALASSOGERON, *Ridgway.*

(Sharpe, t. c., p. 129.)

113. CAUTUS, *Gould* (p. 129). Australian Seas.
[G., ii., p. 434; R., p. 23; C.,
ii., p. 929; H., p. 96.]

114. CULMINATUS, *Gould* (p. 129). Australian Seas (Pa-
[G., ii., p. 436; R., p. 23; C., cific Ocean, Atlantic
ii., p. 934; H., p. 96.] Ocean).

115. CHLORORHYNCHUS, *Gm.* (p. 129). Australian Seas.
[G., ii., p. 437; R., p. 23; C.,
ii., p. 935; H., p. 96.]

116. CARTERI, *Rothschild.* N.W. Australia.
[Rothschild, B.O.C., Oct. 21st,
1903; H., p. 114.]

LXV. PHÆBETRIA, *Reichenb.*

(Sharpe, t. c., p. 129.)

117. FULIGINOSA,* *Gm.* (p. 129). Australian Seas (At-
[G., ii., p. 441; R., p. 23; C., lantic Ocean).
ii., p. 937; H., p. 96.]

* According to the late Capt. F. W. Hutton, and more recently Mr. Wm. Eagle Clarke (*Ibis*, April, 1907), the Sooty Albatross of the New Zealand region is regarded as a distinct species under the name *P. cornicoides*.—A.J.C.

Order IX.--LARIFORMES.

(Sharpe, *Handl. B.*, i., p. 133, 1899.)

Family I. LARIDÆ.

(Sharpe, *t. c.*, p. 133.)

Sub-Family I. STERNINÆ.

(Sharpe, *t. c.*, p. 133.)LXVI. HYDROCHELIDON, *Boie.*(Sharpe, *t. c.*, p. 133.)

118. LEUCOPTERA, *M. and S.* (p. 133). [C., ii., p. 828; H., p. 87.] N.W. Australia, Northern Territory, N. Queensland, *winter* (New Zealand, *accid.*, Temperate Regions of Europe and Asia).

119. HYBRIDA, *Pall.* (p. 133). [G., ii., p. 406; R., p. 23; C., ii., p. 829; H., p. 87.] Australia generally (S. Europe, China, Africa).

LXVII. GELOCHELIDON, *Brehm.*(Sharpe, *t. c.*, p. 134.)

120. ANGLICA, *Mont.* (p. 134). [G., ii., p. 403; R., p. 23; C., ii., p. 830; H., p. 88.] Australia generally (Europe, Asia, N. and E. America).

LXVIII. HYDROPROGNE, *Kaup.*(Sharpe, *t. c.*, p. 134.)

121. CASPIA, *Mont.* (p. 134). [G., ii., p. 392; R., p. 23; C., ii., p. 832; H., p. 88.] Australia generally, Tasmania (Europe).

LXIX. STERNA, *Linn.*(Sharpe, *t. c.*, p. 134.)

122. GRACILIS, *Gould* (p. 135). [G., ii., p. 399; R., p. 23; C., ii., p. 834; H., p. 88.] W., N.W., and N. Australia (Europe, Asia, Africa, N. America, W. Indies).

123. ANTISTROPHA, *Reichenow.* (Orn. M. B., xii., p. 47, 1904.) (Shores of Antarctic Continent.)

124. MEDIA, *Horsf.* (p. 135). [G., ii., p. 397; R., p. 23; C., ii., p. 835; H., p. 88.] N. and E. Australia (S. Europe, Africa, Malay Archipelago, India).

125. BERGII, *Licht.* (p. 136). [G., ii., pp. 394, 396; R., p. 23; C., ii., p. 837; H., p. 88.] Australia generally, Tasmania (Pacific Is., China, Japan, India, Africa, Red Sea).

126. FRONTALIS, *Gray* (p. 136).
[G., ii., p. 398; R., p. 23; C.,
ii., p. 840; H., p. 88.] Australia generally,
Tasmania (New Zealand).

127. ANÆSTHETA, *Scop.* (p. 136).
[G., ii., p. 411; R., p. 23; C.,
ii., p. 842; H., p. 89.] Australia generally
(Pacific Islands,
Molucca Is. to
China and Japan,
Africa, India, West
Indies).

128. FULIGINOSA, *Gm.* (p. 136).
(G., ii., p. 408; R., p. 23; C.,
ii., p. 844; H., p. 89.) Australia generally
(Atlantic Ocean,
Indian Ocean, Pacific
Ocean).

129. NEREIS, *Gould* (p. 136).
[G., ii., p. 402; R., p. 23; C.,
ii., p. 847; H., p. 89.] Australia generally,
Tasmania (New Zealand).

130. SINENSIS, *Gm.* (p. 136).
[R., p. 23; C., ii., p. 848; H.,
p. 89.] N. and E. Australia
(China, India, Malay
Archipelago).

131. MELANAUCHEN, *Temm.* (p. 137).
[G., ii., p. 400; R., p. 23; C.,
ii., p. 849; H., p. 89.] N. and E. Australia
(Pacific Ocean to
Liu Kiu Is., Malay
Peninsula to Tenasserim,
Nicobar Is., Andaman Is.)

LXX. PROCELSTERNA, *Lafr.*
(Sharpe, *t. c.*, p. 137.)

132. CINEREA, *Gould* (p. 137).
[G., ii., p. 420; R., p. 23; C.,
ii., p. 850; H., p. 89.] N. and E. Australia
(New Zealand to
San Ambrose Is.,
S.W. America).

LXXI. ANOUS, *Steph.*
(Sharpe, *t. c.*, p. 137.)

133. STOLIDUS, *Linn.* (p. 137).
[G., ii., p. 413; R., p. 23; C.,
ii., p. 851; H., p. 89.] (Tropical and juxta-
tropical seas of the
world.)

LXXII. MICRANOUS, *Howard Saunders.*
(Sharpe, *t. c.*, p. 138.)

134. TENUIROSTRIS, *Temm.* (p. 138).
[G., ii., p. 417; R., p. 23; C.,
ii., p. 854; H., p. 89.] Australia generally
(Is. of Torres Strait,
Mascarene Is.)

135. LEUCOCAPILLUS, *Gould* (p. 138).
[G., ii., p. 419; R., p. 23; C.,
ii., p. 856; H., p. 90.] N. and E. Australia
(Pacific Ocean, Indian
Ocean, S. Africa, E. America,
Caribbean Sea).

LXXIII. GYGIS, *Wagler.*
 (Sharpe, *t. c.*, p. 138.)

136. ALBA, *Sparrm.* (p. 138). N. and E. Australia
 [*candida*, Gm.; G., ii., p. 405; (Pacific Ocean, In-
 R., p. 23; C., ii., p. 857; H., dian Ocean, S. At-
 p. 90.] lantic Ocean).

Sub-Family II. LARINÆ.

(Sharpe, *t. c.*, p. 139.)

LXXIV. LARUS, *Linn.*
 (Sharpe, *t. c.*, p. 139.)

137. NOVÆ-HOLLANDÆ, *Steph.* (p. Australia generally,
 141). Tasmania (New Zea-
 [G., ii., p. 387; R., p. 22; C., land, *accid.*, New
 ii., p. 860; H., p. 90.] Caledonia).

LXXV. GABIANUS, *Bruch.*
 (Sharpe, *t. c.*, p. 143.)

138. PACIFICUS, *Lath.* (p. 143). Australian Seas, Tas-
 [G., ii., p. 385; R., p. 22; C., mania.
 ii., p. 862; H., p. 90.]

Family II. STERCORARIIDÆ.

(Sharpe, *t. c.*, p. 143.)

LXXVI. MEGALESTRIS, *Bp.*
 (Sharpe, *t. c.*, p. 143.)

139. ANTARCTICA, *Less.* (p. 144). Australian Seas (New
 [G., ii., p. 389; R., p. 22; C., Zealand to Falk-
 ii., p. 863; H., p. 90.] land Is.)

140. MACCORMICKI, *Saunders* (p. 144). (Antarctica).

LXXVII. STERCORARIUS, *Briss.*
 (Sharpe, *t. c.*, p. 144.)

141. POMATORHINUS, *Temm.* (p. 144). N. Australian Seas,
 [C., ii., p. 867; H., p. 91.] winter (Arctic Re-
 gions, *nesting*).

142. CREPIDATUS, *Banks* (p. 144). Australian Seas, Tas-
 [R., p. 22; C., ii., p. 867; H., mania (New Zea-
 p. 91.] land, N. Europe, N. Asia, *nesting*).

Order X.—CHARADRIFORMES.

Sub-Order I.—CHARADRII.

(Sharpe, Handl. B., i., p. 144, 1899.)

(Sharpe, t. c., p. 146.)

Family I. CHARADRIIDÆ.

(Sharpe, t. c., p. 146.)

Sub-Family I. ARENARIIDÆ.

(Sharpe, t. c., p. 146.)

LXXVIII. ARENARIA, *Briss.*

(Sharpe, t. c., p. 146.)

143. INTERPRES, *Linn.* (p. 146). Australia generally,
 [G., ii., p. 269; R., p. 20; C., winter (N. Asia, N.
 ii., p. 774; H., p. 80.) America).

Sub-Family II. HEMATOPODINÆ.

(Sharpe, t. c., p. 147.)

LXXIX. HÆMATOPUS, *Linn.*

(Sharpe, t. c., p. 147.)

144. LONGIROSTRIS, *Vicill.* (p. 147). Coasts of Australia
 [G., ii., p. 215; R., p. 19; C., and Tasmania (New
 ii., p. 776; H., p. 80.) Zealand, Chatham
 Is., New Guinea, Molucca Is.).

145. FULIGINOSUS, *Gould.* Coasts of Australia
 [unicolor, *Wagl.*, pt. (p. 147); and Tasmania (New
 G., ii., p. 217; R., p. 19; C., Zealand).
 ii., p. 778; H., p. 80. Cf.
 Hartert, Nov. Zool., xii., p.
 200, 1905.]

Sub-Family III. LOBIVANELLINÆ.

(Sharpe, t. c., p. 148.)

LXXX. ERYTHROGONYS, *Gould.*

(Sharpe, t. c., p. 148.)

146. CINCTUS, *Gould* (p. 148). Australia generally.
 [G., ii., p. 240; R., p. 20; C.,
 ii., p. 780; H., p. 80.]

LXXXI. LOBIVANELLUS, *Strickl.*

(Sharpe, t. c., p. 149.)

147. LOBATUS, *Vieill.* (p. 149). Australia generally
 [G., ii., p. 218; R., p. 19; C., except West, Tas-
 ii., p. 781; H., p. 81.] mania.

148. MILES, *Bodd.* (p. 149). Northern Territory,
 [G., ii., p. 220; R., p. 19; C., N. Queensland, and
 ii., p. 782; H., p. 81.] N.W. Australia
 (New Guinea, Aru
 Is., Molucca Is.)

Sub-Family IV. CHARADRIINÆ.

(Sharpe, *t. c.*, p. 150.)

LXXXII. ZONIFER, *Sharpe*.

(Sharpe, *t. c.*, p. 150.)

149. TRICOLOR, *Vieill.* (p. 150). Australia generally,
 [G., ii., p. 222; R., p. 19; C., Tasmania.
 ii., p. 784; H., p. 81.]

LXXXIII. SQUATAROLA, *Leach*.

(Sharpe, *t. c.*, p. 152.)

150. HELVETICA, *Linn.* (p. 152). Australia, Tasmania,
 [G., ii., p. 224; R., p. 19; C., winter (Sub-Arctic
 ii., p. 786; H., p. 81.] Regions of both
 hemispheres).

LXXXIV. CHARADRIUS, *Linn.*

(Sharpe, *t. c.*, p. 152.)

151. DOMINICUS, *P.L.S.*, Müll. (p. Australia generally,
 152). Tasmania, winter
 [G., ii., p. 225; R., p. 19; C., (Sub-Arctic Regions
 ii., p. 788; H., p. 81.] of both hemi-
 spheres).

LXXXV. OCHTHODROMUS, *Reichenb.*

(Sharpe, *t. c.*, p. 152.)

152. BICINCTUS, *Jard.* and *Selby* (p. Australia generally,
 153). Tasmania, Norfolk
 [G., ii., p. 238; R., p. 19; C., Is., Lord Howe
 ii., p. 790; H., p. 82.] Is. (New Zealand,
 breeding).

153. GEOFFROYI, *Wagl.* (p. 153). Australia generally,
 [G., ii., p. 237; R., p. 19; C., winter (E. Asia,
 ii., p. 792; H., p. 82.] India, Africa, winter).

154. MONGOLUS, *Pall.* (p. 153). Australia generally,
 [R., p. 19; C., ii., p. 793; H., winter (N.E. Asia,
 p. 82.] Alaska).

155. VEREDUS, *Gould* (p. 153). Australia generally,
 [G., ii., p. 229; R., p. 19; C., winter (Malay Ar-
 ii., p. 791; H., p. 82.] chipelago, Mongolia,
 breeding).

LXXXVI. *ÆGIALITIS*, *Boie*.(Sharpe, *t. c.*, p. 154.)

156. *HIATICOLA*, *Linn.* (p. 154).
 [G., ii., p. 231; R., p. 19; C.,
 ii., p. 793; H., p. 82.] Queensland, S. Australia, New South Wales, *accid.* (Europe, N. Asia, Africa, *winter*).

157. *RUFICAPILLA*, *Tenm.* (p. 155).
 [G., ii., p. 235; R., p. 19; C.,
 ii., p. 794; H., p. 82.] Australia generally, Tasmania (New Zealand N. to China).

158. *MELANOPS*, *Vicill.* (p. 155).
 [G., ii., p. 232; R., p. 19; C.,
 ii., p. 795; H., p. 83.] Australia generally, Tasmania (*accid.*)

159. *CUCULLATA*, *Vicill.* (p. 155).
 [G., ii., p. 231; R., p. 19; C.,
 ii., p. 797; H., p. 83.] E., S., and W. Australia, Tasmania.

Sub-Family V. *PELTOHYATINÆ*.(Sharpe, *t. c.*, p. 156.)LXXXVII. *PELTOHYAS*, *Sharpe*.(Sharpe, *t. c.*, p. 156.)

160. *AUSTRALIS*, *Gould* (p. 156). Interior of Australia
 [G., ii., p. 227; R., p. 19; C., generally.
 ii., p. 798; H., p. 83.]

Sub-Family VI. *HIMANTOPODINÆ*.(Sharpe, *t. c.*, p. 156.)LXXXVIII. *HIMANTOPUS*, *Briss.*(Sharpe, *t. c.*, p. 156.)

161. *LEUCOCEPHALUS*, *Gould* (p. 156). Australia generally, Tasmania (New Guinea, Molucca Is., Greater Sunda Is.)

LXXXIX. *CLADORHYNCHUS*, *Gray*.(Sharpe, *t. c.*, p. 157.)

162. *LEUCOCEPHALUS*, *Vicill.* (p. 157). New South Wales, Victoria, Tasmania, S.W. and N.W. Australia.
 [G., ii., p. 248; R., p. 20; C.,
 ii., p. 803; H., p. 83.]

XC. *RECURVIROSTRA*, *Linn.*(Sharpe, *t. c.*, p. 157.)

163. *NOVÆ-HOLLANDIE*, *Vicill.* (p. 157). Australia generally, Tasmania (New Zealand).
 [G., ii., p. 249; R., p. 20; C.,
 ii., p. 804; H., p. 83.]

Sub-Family VII. TOTANINÆ
(Sharpe, *t. c.*, p. 157.)

XCI. NUMENIUS, *Briss.*(Sharpe, *t. c.*, p. 157.)

164. CYANOPUS, *Vieill.* (p. 158).
[G., ii., p. 277; R., p. 20; C.,
ii., p. 805; H., p. 84.] Australia generally,
Tasmania, *winter*
(E. Siberia, Japan).

165. VARIEGATUS, *Scop.* (p. 158).
[G., ii., p. 279; R., p. 20; C.,
ii., p. 806; H., p. 84.] Australia generally,
Tasmania, *winter*
(E. Siberia, Japan).

XCH. MESOSCOLOPAX, *Sharpe.*(Sharpe, *t. c.*, p. 159.)

166. MINUTUS, *Gould*, p. 159).
[G., ii., p. 280; R., p. 20; C.,
ii., p. 806; H., p. 84.] Australia generally
(E. Siberia, Corea,
Mongolia, China,
Japan).

XCIII. LIMOSA, *Briss.*(Sharpe, *t. c.*, p. 159.)

167. NOVÆ-ZEALANDIÆ, *Gray* (p. 159).
[G., ii., p. 252; R., p. 20; C.,
ii., p. 808; H., p. 84.] Australia generally,
Tasmania (New
Zealand, Oceania,
winter, Alaska, E.
Siberia)

168. LIMOSA, *Linn.* (p. 159).
[G., ii., p. 251; R., p. 20; C.,
ii., p. 809; H., p. 84.] Northern Territory,
Queensland, New
South Wales, Vic-
toria, *winter* (E.
Siberia, Europe).

XCIV. TOTANUS, *Bechst.*(Sharpe, *t. c.*, p. 160.)

169. STAGNATILIS, *Bechst.* (p. 160).
[G., ii., p. 267; R., p. 20; C.,
ii., p. 810; H., p. 84.] S. Queensland, New
South Wales, *winter*
(C. and S.
Europe, N.E. Asia,
Africa, India, *winter*).

XCV. HEILODROMAS, *Kaup.*(Sharpe, *t. c.*, p. 160.)

170. OCHROPOUS, *Linn.* (p. 160).
[H., p. 117.] N.W. Australia,
Queensland, *winter*
(Europe, N. Asia,
Africa, India, *winter*).

XCVI. HETERACTITIS, *Stejn.*(Sharpe, *t. c.*, p. 161.)

171. BREVIPES, *Vieill.* (p. 161).
[G., ii., p. 268; R., p. 20; C.,
ii., p. 811; H., p. 85.] N. and E. Australia,
winter (E. Siberia,
China, Malay Archi-
pelago).

172. INCANUS, *Gm.* (p. 161).
[C., ii., p. 812; H., p. 85.] N. Australia, Queensland to New South Wales (Oceania N. to Alaska).

XCVII. TRINGOIDES, *Bp.*
(Sharpe, *t. c.*, p. 161.)

173. HYPOLEUCUS, *Linn.*
[G., ii., p. 263; R., p. 20; C., ii., p. 812; H., p. 85.] Australia generally, Tasmania, *winter* (Europe, N. Asia, Africa, India, *winter*).

XCVIII. TEREKIA, *Bp.*
(Sharpe, *t. c.*, p. 161.)

174. CINEREA, *Guldenst.* (p. 161).
[G., ii., p. 261; R., p. 20; C., ii., p. 813; H., p. 85.] E. and S. Australia, *winter* (N.S. Europe, N. Siberia, Africa, India, *winter*).

XCIX. GLOTTIS, *Koch.*
(Sharpe, *t. c.*, p. 161.)

175. NEBULARIUS, *Gunn* (p. 161).
[G., ii., p. 265; R., p. 20; C., ii., p. 814; H., p. 85.] Australia generally, Tasmania, *winter* (N. Europe, N. Asia, Africa, India, *winter*).

C. RHYACOPHILUS, *Kaup.*
(Sharpe, *t. c.*, p. 162.)

176. GLAREOLA, *Gm.* (p. 162).
[H., p. 114. *Cf.* Mattingley, *Emu*, v., p. 155, 1906.] Victoria, *accid.* (Europe, N. Asia, Africa, India, *winter*).

CI. BARTRAMIA, *Less.*
(Sharpe, *t. c.*, p. 162.)

177. LONGICAUDA, *Bechst.* (p. 162).
[G., ii., p. 242; R., p. 20; C., ii., p. 815; H., p. 85.] Australia generally, *accid.* (N. America, S. America, *winter*).

Sub-Family VIII. SCOLOPACINÆ.
(Sharpe, *t. c.*, p. 162.)

CII. CALIDRIS, *Illiger.*
(Sharpe, *t. c.*, p. 163.)

178. ARENARIA, *Linn.* (p. 163).
[C., ii., p. 816; H., p. 87.] W. and N.W. Australia, Queensland, New South Wales, *winter* (Arctic Regions, Southern Continents, *winter*).

CIII. PISOBIA, *Bilb.*

[*Cf.* Oberholser, P.U.S. Nat. Mus., xxviii., p. 839, 1905;
Limonites, Kaup. (*nec* Dolman); Sharpe, Handl. B., i., p. 163.]

179. RUFICOLLIS, *Pall.* (p. 163). Australia, Tasmania, winter* (E. Siberia, Japan, China, Burma, *winter*).
 [G., ii., p. 257; R., p. 20; C., ii., p. 818; H., p. 86.]

180. DAMACENSIS, *Horsf.* (p. 163). N.W. Australia, *winter* (E. Siberia, Japan, China, N.E. Bengal, Burma, *winter*).
 [H., p. 117.]

CIV. HETEROPYGIA, *Coues.*

(Sharpe, *t. c.*, p. 163.)

181. AURITA, *Lath.* Australia generally, Tasmania (New Zealand, *winter*, E. Siberia, China, Alaska).
 [*acuminata*, Hors. (p. 163); G., ii., p. 254; R., p. 20; C., ii., p. 819; H., p. 86.]

CV. ANCYLOCHILUS, *Kaup.*

(Sharpe, *t. c.*, p. 164.)

182. SUBARQUATUS, *Guldenst.* (p. 164). Australia, Tasmania, winter (N. Asia, Africa, India, *winter*).
 [G., ii., p. 246; R., p. 20; C., ii., p. 820; H., p. 86.]

CVI. TRINGA, *Linn.*

(Sharpe, *t. c.*, p. 164.)

183. CANUTUS, *Linn.* (p. 164.) S. and E. Australia (New Zealand, *winter*, Arctic Regions, Africa, India, *winter*).
 [G., ii., p. 259; R., p. 20; C., ii., p. 820; H., p. 86.]

184. CRASSIROSTRIS, *T.* and *S.* (p. 164). Australia, *winter* (E. Siberia, Japan, China, Indian Peninsula, *winter*).
 [G., ii., p. 260; R., p. 20; C., ii., p. 821; H., p. 86.]

CVII. GALLINAGO, *Leach.*

(Sharpe, *t. c.*, p. 165.)

185. AUSTRALIS, *Lath.* (p. 165.) Australia, Tasmania, winter (New Zealand, Formosa, Japan, *nesting*).
 [G., ii., p. 271; R., p. 20; C., ii., p. 822; H., p. 87.]

* For this species, and several other Australian birds accidental to New Zealand, see *Emu*, vol. vii., p. 58.—Review of Buller's "Birds of New Zealand."—A.J.C.

CVIII. ROSTRATULA, *Vicell.*

(Sharpe, *t. c.*, p. 187.)

186. AUSTRALIS, *Gould* (p. 167). Australia generally.
[G., ii., p. 274; R., p. 20; C.,
ii., p. 826; H., p. 87.]

Sub-Order II. PARRÆ.

(Sharpe, *t. c.*, p. 168.)

Family I. PARRIDÆ.

(Sharpe, *t. c.*, p. 168.)

CIX. HYDRALECTOR, *Wagl.*

(Sharpe, *t. c.*, p. 168.)

187. GALLINACEOUS, *Temm.* (p. 168). N.W., N., and E.
[G., ii., p. 330; R., p. 21; C., Australia (Celebes,
ii., p. 773; H., p. 80.) N. Borneo.)

Sub-Order III. CURSORII.

(Sharpe, *t. c.*, p. 169.)

Family I. GLAREOLIDÆ.

(Sharpe, *t. c.*, p. 170.)

CX. STILTIA, *Bp.*

(Sharpe, *t. c.*, p. 170.)

188. ISABELLA, *Vicell.* (p. 170). Australia generally
[G., ii., p. 243; R., p. 20; C., (Celebes, Papuan
ii., p. 769; H., p. 79.) Is., Molucca Is.,
Greater Sunda Is.)

CXI. GLAREOLA, *Briss.*

(Sharpe, *t. c.*, p. 170.)

189. ORIENTALIS, *Leach.* (p. 171). Australia, *winter* (E.
[G., ii., p. 245; R., p. 20; C., Siberia, China, Indo-
ii., p. 771; H., p. 79.] Chinese countries,
Malay Peninsula).

Sub Order IV. CEDICNEMI.

(Sharpe, *t. c.*, p. 172.)

Family I. CEDICNEMIDÆ.

(Sharpe, *t. c.*, p. 172.)

CXII. BURHINUS, *Illiger.*

(Sharpe, *t. c.*, p. 173.)

190. GRALLARIUS, *Latth.* (p. 173). Australia generally.
[G., ii., p. 210; R., p. 19; C., Tasmania (*accid.*)
ii., p. 766; H., p. 79.]

CXIII. ORTHORHAMPHUS, *Salvad.*(Sharpe, *t. c.*, p. 173.)

191. MAGNIROSTRIS, *Vieill.* (p. 173). N. and N.W. Australia [G., ii., p. 213; R., p. 19; C., ii., p. 768; H., p. 79.] (Bismarck Archipelago, Malayan Is., Is. of Bay of Bengal).

Sub-Order V. OTIDES.

(Sharpe, *t. c.*, p. 173.)

Family I. OTIDIDÆ.

(Sharpe, *t. c.*, p. 173.)CXIV. EUPODOTIS, *Less.*

192. AUSTRALIS, *J. E. Gray* (p. 176). Australia generally. [G., ii., p. 208; R., p. 19; C., ii., p. 762; H., p. 78.]

Order XI. GRUIFORMES.

(Sharpe, *Handl. B.*, i., p. 176, 1899.)

Sub-Order I. GRUES.

(Sharpe, *t. c.*, p. 176.)CXV. ANTIGONE, *Reichenb.*(Sharpe, *t. c.*, p. 178.)

193. AUSTRALASIANA, *Gould* (p. 178). Australia generally. [G., ii., p. 290; R., p. 20; C., ii., p. 760; H., p. 78.]

Order XII. ARDEIFORMES.

(Sharpe, *Handl. B.*, i., p. 184, 1899.)

Sub-Order I. PLATALEÆ.

(Sharpe, *t. c.*, p. 184.)

Family I. IBIDIDÆ.

(Sharpe, *t. c.*, p. 184.)CXVI. IBIS, *Cuv.*(Sharpe, *t. c.*, p. 184.)

194. MOLUCCA, *Cuv.* (p. 185). Australia generally [G., ii., p. 284; R., p. 20; C., ii., p. 940; H., p. 96.] (New Guinea, Molucca Is.)

CXVII. CARPHIBIS, *Reichenb.*(Sharpe, *t. c.*, p. 185.)

195. SPINICOLLIS, *Reichenb.* (p. 185). Australia generally. [G., ii., p. 282; R., p. 20; C., ii., p. 942; H., p. 97.] Tasmania, *accid.* (New Guinea).

CXVIII. PLEGADIS, *Kaup.*

(Sharpe, *t. c.*, p. 187.)

196. FALCINELLUS, *Linn.* (p. 187). Australia generally,
[G., ii., p. 286; R., p. 20; C., Tasmania (S. Eu-
ii., p. 944; H., p. 97.) Europe to India, China,
Africa, E. United States).

Family II. PLATALEIDÆ.

(Sharpe, *t. c.*, p. 188.)

CXIX. PLATALEA, *Linn.*

(Sharpe, *t. c.*, p. 188.)

197. REGIA, *Gould* (p. 188). Australia generally
[G., ii., p. 287; R., p. 20; C., (New Zealand,
ii., p. 946; H., p. 97.) accid., Molucca Is.,
S. Borneo).

CXX. PLATIBIS, *Bp.*

(Sharpe, *t. c.*, p. 188.)

198. FLAVIPES, *Gould* (p. 188). Australia generally.
[G., ii., p. 288; R., p. 20; C.,
ii., p. 948; H., p. 97.]

Sub-Order II. CICONIÆ.

(Sharpe, *t. c.*, p. 189.)

Family I. CICONIINÆ.

(Sharpe, *t. c.*, p. 190.)

CXXI. XENORHYNCHUS, *Bp.*

(Sharpe, *t. c.*, p. 191.)

199. ASIATICUS, *Lath.* (p. 191). Australia generally
[G., ii., p. 292; R., p. 20; C., (New Guinea, India.
ii., p. 969; H., p. 100.) Burma, Malay Pen-
insula).

Sub-Order III. ARDEIDÆ.

(Sharpe, *t. c.*, p. 193.)

Family I. ARDEIDÆ.

(Sharpe, *t. c.*, p. 193.)

CXXII. ARDEA, *Linn.*

200. SUMATRANA, *Raffl.* (p. 194). N. and E. Australia
[G., ii., p. 296; R., p. 21; C., (Celebes, Sunda Is.,
ii., p. 950; H., p. 98.) Malay Peninsula,
Tenasserim, Ara-
ean).

201. CINEREA, *Linn.* (p. 194).
 [G., ii., p. 295; R., p. 21; C.,
 ii., p. 950; H., p. 98.] New South Wales,
 S. Australia (Old
 World generally).

CXXIII. MESOPHOYX, *Sharpe.*
 (Sharpe, *t. c.*, p. 195.)

202. PLUMIFERA, *Gould* (p. 195).
 [G., ii., p. 303; R., p. 21; C.,
 ii., p. 951; H., p. 98.] Australia generally
 (New Guinea, Cele-
 bes, Molucca Is.)

CXXIV. HERODIAS, *Boie.*
 (Sharpe, *t. c.*, p. 195.)

203. TIMORIENSIS, *Less.* (p. 195).
 [G., ii., p. 301; R., p. 21; C.,
 ii., p. 952; H., p. 98.] Australia generally,
 Tasmania (New
 Zealand, Philippine
 Is., China, Japan).

CXXV. NOTOPHOYX, *Sharpe.*
 (Sharpe, *t. c.*, p. 196.)

204. NOVÆ-HOLLANDIÆ, *Lath.* (p.
 196.)
 [G., ii., p. 299; R., p. 21; C.,
 ii., p. 954; H., p. 98.] Australia generally,
 Tasmania (New
 Zealand, New Cale-
 donia, New Guinea,
 Celebes, Molucca
 Is.)

205. PACIFICA, *Lath.* (p. 196).
 [G., ii., p. 297; R., p. 21; C.,
 ii., p. 955; H., p. 98.] Australia generally,
 Tasmania.

206. FLAVIROSTRIS, *Sharpe* (p. 196).
 [G., ii., p. 306; R., p. 21; C.,
 ii., p. 957; H., p. 99.] N.W. Australia, Nor-
 thern Territory, N.
 Queensland (New
 Guinea, Aru Is.,
 Tenimber Is., Am-
 boina, Celebes).

207. ARUENSIS, *Gray* (p. 196).
 [C., ii., p. 957; H., p. 99.] Northern Territory
 (Aru Is.)

CXXVI. GARZETTA, *Kaup.*
 (Sharpe, *t. c.*, p. 197.)

208. NIGRIPES, *Temm.* (p. 197).
 [G., ii., p. 304; R., p. 21; C.,
 ii., p. 958; H., p. 99.] Australia generally
 (New Guinea, Java,
 Malay Archipelago).

CXXVII. DEMIEGRETTA, *Blyth.*
(Sharpe, *t. c.*, p. 198.)

209. SACRA, *Gm.* (p. 198).
[G., ii., pp. 305, 307, 309; R., p. 21; C., ii., p. 959; H., p. 99.]

Coasts of Australia and Tasmania (Oceania N. to Japan, Corea, Bay of Bengal).

CXXVIII. NYCTICORAX, *Rafin.*
(Sharpe, *t. c.*, p. 198.)

210. CALEDONICUS, *Gm.* (p. 198).
[G., ii., p. 311; R., p. 21; C., ii., p. 962; H., p. 99.]

Australia generally, Tasmania (New Zealand, New Guinea, Admiralty Is., Pelew Is., Celebes).

CXXIX. BUTORIDES, *Blyth.*
(Sharpe, *t. c.*, p. 199.)

211. STAGNATILIS, *Gould* (p. 200).
[G., ii., pp. 316, 317; R., p. 21; C., ii., p. 963; H., p. 99.]

N. and N.W. Australia, Northern Territory, Queensland, New South Wales (Oceania, Solomon Is., New Guinea, Molucca Is., Lesser Sunda Is.)

CXXX. ARDETTA, *Gray.*
(Sharpe, *t. c.*, p. 202.)

212. PUSILLA, *Vieill.* (p. 203).
[G., ii., p. 319; R., p. 21; C., ii., p. 965; H., p. 100.]

Australia generally (New Zealand).

213. SINENSIS, *Gm.* (p. 202).
[C., ii., p. 964; H., p. 100.]

Northern Territory, N. Queensland (New Guinea, Papuan and Molucca Is., Burma, India, China, Japan).

CXXXI. DUPETOR, *Heine and Reichenb.*
(Sharpe, *t. c.*, p. 203.)

214. GOULDI, *Bp.* (p. 203).
[G., ii., p. 315; R., p. 21; C., ii., p. 966; H., p. 100.]

Australia generally (except Victoria).

CXXXII. BOTAVURUS, *Briss.*
(Sharpe, *t. c.*, p. 204.)

215. PŒCILOPTILUS, *Wagl.* (p. 204).
[G., ii., p. 313; R., p. 21; C., ii., p. 967; H., p. 100.]

Australia, Tasmania (New Zealand, New Caledonia).

Order XIII. ANSERIFORMES.

(Sharpe, *Handl. B.*, i., p. 207, 1899.)

Family I. ANATIDÆ.

(Sharpe, *t. c.*, p. 207.)

Sub-Family I. CYGNINÆ.

(Sharpe, *t. c.*, p. 207.)CXXXIII. CHENOPSIS, *Wagl.*(Sharpe, *t. c.*, p. 208.)

216. ATRATA, *Lath.* (p. 208). Australia generally,
 [G., ii., p. 346; R., p. 22; C., Tasmania.
 ii., p. 1,014; H., p. 105.]

Sub-Family II. ANSERANATINÆ.

(Sharpe, *t. c.*, p. 208.)CXXXIV. ANSERANAS, *Less.*(Sharpe, *t. c.*, p. 208.)

217. SEMIPALMATA, *Lath.* (p. 208). Australia generally,
 [G., ii., p. 352; R., p. 22; C., Tasmania.
 ii., p. 1,017; H., p. 105.]

Sub-Family III. PLECTROPTERINÆ.

(Sharpe, *t. c.*, p. 208.)CXXXV. NETTOPUS, *Brandt.*(Sharpe, *t. c.*, p. 209.)

218. PULCELLUS, *Gould* (p. 209). N.W. Australia, Nor-
 [G., ii., p. 357; R., p. 22; C., thern Territory, N.
 ii., p. 1,019; H., p. 106]. Queensland (New
 Guinea, Celebes,
 Molucca Is.)

219. ALBIPENNIS, *Gould* (p. 209). Queensland to New
 [G., ii., p. 359; R., p. 22; C., South Wales.
 ii., p. 1,020; H., p. 106.]

Sub-Family IV. CEREOPSINÆ.

(Sharpe, *t. c.*, p. 210.)CXXXVI. CEREOPSIS, *Lath.*(Sharpe, *t. c.*, p. 210.)

220. NOVÆ-HOLLANDIE, *Lath.* (p. 210). Victoria, S. Australia,
 [G., ii., p. 350; R., p. 22; C., W. Australia, Tas-
 ii., p. 1,021; H., p. 106.] mania, Is. of Bass
 Strait.

Sub-Family V. CHENONETTINÆ.

(Sharpe, t. c., p. 213.)

CXXXVII. CHENONETTA, *Brandt.*

(Sharpe, t. c., p. 214.)

221. JUBATA, *Lath.* (p. 214). Australia generally,
 [G., ii., p. 354; R., p. 22; C., Tasmania.
 ii., p. 1,023; H., p. 106.]

Sub-Family VI. ANATINÆ.

(Sharpe, t. c., p. 214.)

CXXXVIII. DENDROCYGNA, *Swains.*

(Sharpe, t. c., p. 214.)

222. ARCUATA, *Horsf.* (p. 214). Australia generally
 (Oceania, Celebes,
 [G., ii., p. 374; R., p. 22; C., New Guinea, Molucca
 ii., p. 1,025; H., p. 106.] Is., Indo-
 Malayan Is.)

223. EYTONI, *Gould* (p. 215). Australia generally,
 Tasmania (New Zea-
 [G., ii., p. 375; R., p. 22; C., land, *accid.*)
 ii., p. 1,027; H., p. 107.]

CXXXIX. TADORNA, *Fleming.*

(Sharpe, t. c., p. 215.)

224. RUFITERGUM, *Hartert.* N.W. Australia, Northern
 Territory, Queensland (New
 [Nov. Zool., xii., p. 205, 1905; G., ii., p. 360; R., p. 22; C., Guinea, Molucca
 ii., p. 1,029; H., p. 107.] Is.)

CXL. CASARCA, *Bp.*

(Sharpe, t. c., p. 215.)

225. TADORNOIDES, *J. and S.* (p. 216). New South Wales,
 Victoria, Tasmania,
 [G., ii., p. 361; R., p. 22; C., S., W., and N.W.
 ii., p. 1,030; H., p. 107.] Australia.

CXLI. ANAS, *Linn.*

(Sharpe, t. c., p. 216.)

226. SUPERCILIOSA, *Gm.* (p. 216). Australia generally,
 Tasmania (New Zealand, New Guinea,
 [G., ii., p. 363; R., p. 22; C., Sunda Is.)
 ii., p. 1,033; H., p. 107.]

CXLII. NETTIUM, *Kaup.*

(Sharpe, t. c., p. 218.)

227. CASTANEUM, *Eyton* (p. 219). Australia generally,
 Tasmania (New Zealand, Celebes, Java).
 [G., ii., p. 365; R., p. 22; C.,
 ii., p. 1,037; H., p. 107.]

228. GIBBERIFRONS, *S. Müll.* (p. 219). Australia generally,
[R., p. 22; C., ii., p. 1,039; H., Tasmania (New Zealand,
p. 107.] New Guinea,
Celebes, Sunda Is.)

CXLIII. QUERQUEDULA, *Steph.*
(Sharpe, *t. c.*, p. 220.)

229. QUERQUEDULA, *Linn.* (p. 220). Victoria, *accid.* (Malay
[C., ii., p. 1,042; H., p. 114.] Archipelago, India,
China, *winter*, N. Europe, N. Asia).

CXLIV. SPATULA, *Boie.*
(Sharpe, *t. c.*, p. 221.)

230. CLYPEATA, *Linn.* (p. 221). Australia, *accid.* (Eu-
[G., ii., p. 370; R., p. 22; C., rope, N. Asia, N.
ii., p. 1,043; H., p. 107.] America, Africa,
India and Central America, *winter*).

231. RHYNCHOTIS, *Lath.* (p. 221). Australia generally,
[G., ii., p. 368; R., p. 22; C., Tasmania (New Zealand),
ii., p. 1,044; H., p. 108.]

CXLV. MALACORHYNCHUS, *Swains.*
(Sharpe, *t. c.*, p. 221.)

232. MEMBRANACEUS, *Lath.* (p. 221). Australia generally,
[G., ii., p. 372; R., p. 22; C., Tasmania.
ii., p. 1,046; H., p. 108.]

CXLVI. STICTONETTA, *Reichenb.*
(Sharpe, *t. c.*, p. 221.)

233. NÆVOSA, *Gould* (p. 221). Queensland to New
[G., ii., p. 367; R., p. 22; C., South Wales, Victoria,
ii., p. 1,049; H., p. 108.] Tasmania, S. Australia, W. Australia.

CXLVII. AYTHYA, *Boie.*
(Sharpe, *t. c.*, p. 222.)

234. AUSTRALIS, *Eyton* (p. 223). Australia generally,
[G., ii., p. 377; R., p. 22; C., Tasmania (New Zealand,
ii., p. 1,050; H., p. 108.] New Guinea,
Waigou).

Sub-Family VII. ERISMATURINÆ.
(Sharpe, *t. c.*, p. 226.)

CXLVIII. ERISMATURA, *Bp.*
(Sharpe, *t. c.*, p. 227.)

235. AUSTRALIS, *Gould* (p. 227). New South Wales,
[G., ii., p. 379; R., p. 22; C., Victoria, S. Australia,
ii., p. 1,051; H., p. 108.] W. Australia,
Tasmania.

CXIX. BIZIURA, Steph.

(Sharpe, *t. c.*, p. 227.)236. LOBATA, *Temm.* (p. 227).[G., ii., p. 381; R., p. 22; C.,
ii., p. 1,053; H., p. 108.]S. Queensland, New
South Wales, Victoria,
S. Australia,
W. Australia, Tasmania.

Order XIV. PELICANIFORMES.

(Sharpe, *Handl. B.*, i., p. 232, 1899.)

FAMILY I. PHALACROCORACIDÆ.

(Sharpe, *t. c.*, p. 232.)CL. PHALACROCORAX, *Briss.*(Sharpe, *t. c.*, p. 232.)237. CARBO, *Linn.* (p. 232).[G., ii., p. 488; R., p. 24; C.,
ii., p. 971; H., p. 101.]Australia generally,
Tasmania (New Zealand,
Europe, N. Asia, E. and N.
America, Africa, India).238. SULCIROSTRIS, *Brandt* (p. 233).[G., ii., p. 495; R., p. 25; C.,
ii., p. 973; H., p. 101.]Australia generally,
Tasmania (New Zealand,
New Guinea, Molucca Is. to S.
Borneo).239. GOULDI, *Salvad.* (p. 234).[G., ii., p. 492; H., p. 25; C.,
ii., p. 973; H., p. 101.]Coasts of Australia
and Tasmania (Louisiade Is.)240. HYPOLEUCUS, *Brandt* (p. 234).[G., ii., p. 490; R., p. 24; C.,
ii., p. 975; H., p. 101.]S. Queensland, New
South Wales, Victoria,
S. Australia, W. and N.W. Australia.241. MELANOLEUCUS, *Vicell.* (p. 234).[G., ii., p. 493; R., p. 25; C.,
ii., p. 977; H., p. 101.]Australia generally,
Tasmania (New Zealand,
New Guinea, Molucca Is., Sunda
Is.)

Family II. PLOTIDÆ.

(Sharpe, *t. c.*, p. 236.)CLI. PLOTUS, *Linn.*(Sharpe, *t. c.*, p. 236.)242. NOVÆ-HOLLANDIÆ, *Gould* (p. 236).[G., ii., p. 496; R., p. 24; C.,
ii., p. 979; H., p. 102.]Australia generally
(New Zealand, S.E.
New Guinea, *accid.*)

Family III. SULIDÆ.

(Sharpe, *t. c.*, p. 236.)CLII. SULA, *Briss.*(Sharpe, *t. c.*, p. 236.)

243. SERRATOR, *Gray*, p. 236). Australia generally,
[G., ii., p. 504; R., p. 24; C., Tasmania (New Zealand).
ii., p. 981; H., p. 102.]

244. CYANOPS, *Sunder.* (p. 237). N. Australia (S. Tropical Oceans.)
[G., ii., p. 506; R., p. 24; C.,
ii., p. 985; H., p. 102.]

245. PISCATRIX, *Linn.* (p. 237). N. Australia (Indian
[sula, *Linn.*, *Nelson*, *P. Biol.* Ocean, Atlantic
Soc. Washington, xviii., p. 122 (1905); G., ii., p. 509;
p. 24; C., ii., p. 987; H., p. 102.] Ocean).

246. LEUCOGASTER, *Bodd.* (p. 237). N. Australia, Pacific
[sula, *nec Linn.*, *Sharpe, t. c.*, Ocean, Indian Ocean,
p. 237; G., ii., p. 507; R., p. 24; C., ii., p. 988; H., p. 102.] Atlantic Ocean.

Family IV. FREGATIDÆ.

(Sharpe, *t. c.*, p. 237.)CLIII. FREGATA, *Briss.*(Sharpe, *t. c.*, p. 237.)

247. AQUILA, *Linn.* (p. 237). Australian Seas (Tropical and Sub-Tropical Oceans).
[G., ii., p. 499; R., p. 25; C.,
ii., p. 989; H., p. 103.]

248. ARIEL, *Gould* (p. 237). Australian Seas (Tropical and Sub-Tropical Oceans).
G., ii., p. 499; R., p. 25; C.,
ii., p. 991; H., p. 103.]

Family V. PHAËTHONIDÆ.

(Sharpe, *t. c.*, p. 238.)CLIV. PHAËTHON, *Linn.*

249. RUBRICAUDA, *Bodd.* (p. 238). Australian Seas (Indian Ocean, Pacific Ocean).
[G., ii., p. 501; R., p. 23; C.,
ii., p. 994; H., p. 103.]

250. ERUBESCENS, *Rotsch.* (Lord Howe Is., Laysan Is., Kermadec Is.)
[Avif. Laysan, p. 296, 1900.]

251. *LEPTURUS*, *Daud.* (p. 238). Australian Seas (Tropical Oceans, Atlantic Ocean, Pacific Ocean).
 [R., p., 23; C., ii., p. 995; H., p. 103.]

Family VI. PELECANIDÆ.

(Sharpe, *t. c.*, p. 238.)CLV. *PELECANUS*, *Linn.*

252. *CONSPICILLATUS*, *Temm.* (p. 239). Australia generally, Tasmania (New Guinea).
 [G., ii., p. 486; R., p. 25; C., ii., p. 997; H., p. 104.]

Order XV. ACCIPITRIFORMES.

(Sharpe, *Handl.*, *B.*, *i.*, p. 241, 1899.)

Sub-Order I. ACCIPITRES.

(Sharpe, *t. c.*, p. 241.)

Family I. FALCONIDÆ.

(Sharpe, *t. c.*, p. 243.)

Sub-Family I. ACCIPITRINÆ.

(Sharpe, *t. c.*, p. 244.)CLVI. *CIRCUS*, *Lacép.*(Sharpe, *t. c.*, p. 245.)

253. *ASSIMILIS*, *Jard. and Selby* (p. 245). Australia generally, Tasmania (Celebes).
 [G., i., p. 60; R., p. 1; C., i., p. 1; H., p. 3.]

254. *GOULDI*, *Bp.* (p. 246). Austrália generally, Tasmania, Lord Howe Is., Norfolk Is. (New Zealand, New Caledonia, Fiji Is.)
 [G., i., p. 58; R., p. 1; C., i., p. 2; H., p. 4.]

CLVII. *ASTUR*, *Lacép.*(Sharpe, *t. c.*, p. 248.)

255. *CLARUS*, *Lath.* Australia generally.
 [*cinereus*, *Vieill.*, p. 250; G., i., p. 37; R., p. 1; C., i., p. 4; H., p. 4. Cf. Sharpe, *Hist. Coll. Brit. Mus.*, p. 112 (1906).]

256. NOVÆ-HOLLANDIÆ, *Gm.* (p. 250). Queensland, New
 [G., i., p. 38; R., p. 1; C., i., South Wales, Victoria,
 p. 4; H., p. 4.] Tasmania, S.
 Australia.

257. LEUCOSOMUS, *Sharpe* (p. 250). N. Queensland (New
 [R., p. 1; C., i., p. 6; H., p. Guinea).

4.]

258. FASCIATUS, *Vig. and Horsf.* Australia generally,
 [Cf. Hartert, Nov. Zool., xxi., Tasmania, Norfolk
 p. 207 (1905); *approximans*, Is. (New Caledonia).
 Vig., p. 251; G., i., p. 41;
 R., p. 1; C., i., p. 6; H., p.
 4.]

259. CRUENTUS, *Gould* (p. 251). W. and N.W. Austra-
 [G., i., p. 43; R., p. 1; C., i., lia, Victoria (casual).
 p. 8; H., p. 4.]

CLVIII. ACCIPITER, *Briss.*(Sharpe, *t. c.*, p. 252.)

260. CIRRHOCEPHALUS, *Vieill.* (p. 253). Australia generally,
 [G., i., p. 45; R., p. 1; C., i., Tasmania (New
 p. 9; H., p. 4.] Guinea).

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Sub-Family II. BUTEONINÆ.

(Sharpe, *t. c.*, p. 254.)CLIX. ERYTHROTRIORCHIS, *Sharpe*.
 (Sharpe, *t. c.*, p. 254.)

261. RADIATUS, *Lath.* S. Queensland, New
 [G., i., p. 40; R., p. 1; C., South Wales, Central
 i., p. 10; H., p. 5.] Australia.

Sub-Family III. AQUILINÆ.

(Sharpe, *t. c.*, p. 260.)CLX. UROAËTUS, *Kaup.*(Sharpe, *t. c.*, p. 260.)

262. AUDAX, *Lath* (p. 260). Australia generally,
 [G., i., p. 8; R., p. 1; C., i., Tasmania.
 p. 11; H., p. 1.]

CLXI. EUTOLMAËTUS, *Blyth.*(*Nisaëtus*, Hodges; Sharpe,
t.c., p. 262.)

263. MORPHNOIDES, *Gould* (p. 262). Australia generally
 [G., i., p. 11; R., p. 1; C., i., (New Guinea).
 p. 15; H., p. 1.]

CLXII. BUTASTUR, *Hodgs.*

(Sharpe, *t. c.*, p. 266.)

264. TEESA, Frankl. (p. 266).
[C., i., p. 16; H., p. 114.]

New South Wales, *accid.* (Indian Peninsula).

CLXIII. HALIAËTUS, *Savign.*

(Sharpe, *t. c.*, p. 267.)

265. LEUCOGASTER, *Gm.* (p. 267).
[G., i., p. 13; R., p. 1; C., i., p. 16; H., p. 1.]

Australia generally,
Tasmania (Malay Archipelago to India and Ceylon).

CLXIV. HALIASTUR, *Selby.*

(Sharpe, *t. c.*, p. 267.)

266. GIRRENERA, *Vicill.* (p. 268).
[G. i., p. 17; R., p. 1; C., i., p. 19; H., p. 1.]

N.W. Australia, Northern Territory, Queensland, New South Wales (Papuan and Molucca Is. to Celebes).

267. SPHENURUS, *Vicill.* (p. 268).
[G., i., p. 20; R., p. 1; C., i., p. 20; H., p. 2.]

Australia generally,
Lord Howe Is. (New Caledonia, New Guinea).

CLXV. MILVUS, *Cuv.*

(Sharpe, *t. c.*, p. 268.)

268. AFFINIS, *Gould* (p. 268).
[G., i., p. 49; R., p. 1; C., i., p. 22; H., p. 2.]

Australia generally
(Malay Archipelago).

CLXVI. LOPHOICTINIA, *Kaup.*

(Sharpe, *t. c.*, p. 269.)

269. ISURA, *Gould* (p. 269).
[G., i., p. 51; R., p. 1; C., i., p. 23; H., p. 2.]

Australia generally.

CLXVII. GYPOICTINIA, *Kaup.*

(Sharpe, *t. c.*, p. 269.)

270. MELANOSTERNUM, *Gould* (p. 269).
[G., i., p. 47; R., p. 1; C., i., p. 25; H., p. 2.]

Interior of Australia generally.

CLXVIII. ELANUS, *Savign.*

(Sharpe, *t. c.*, p. 269.)

271. AXILLARIS, *Gould* (p. 270).
[G., i., p. 53; R., p. 1; C., i., p. 27; H., p. 2.]

Australia generally.

272. *SCRIPTUS*, *Gould* (p. 270). Queensland, New
 [G., i., p. 55; R., p. 1; C., i., South Wales, Vic-
 p. 28; H., p. 2.] toria, S. Australia,
 W. Australia.

CLXIX. *BAZA*, *Hodgs.*
 (Sharpe, *t. c.*, p. 271.)

273. *SUBCRISTATA*, *Gould* (p. 271). N. Territory, Queens-
 [G., i., p. 56; R., p. 1; C., i., land, New South
 p. 29; H., p. 2.] Wales, interior of
 S. Australia.

CLXX. *FALCO*, *Linn.*
 (Sharpe, *t. c.*, p. 273.)

274. *MELANOGENYS*, *Gould* (p. 274). Australia generally,
 [G., i., p. 26; R., p. 11; C., i., Tasmania.
 p. 31; H., p. 3.]

275. *HYPOLEUCUS*, *Gould* (p. 274). Australia generally.
 [G., i., p. 24; R., p. 1; C., i.,
 p. 33; H., p. 3.]

276. *SUBNIGER*, *Gray* (p. 274). Australia generally.
 [G., i., p. 28; R., p. 1; C., i.,
 p. 33; H., p. 3.]

277. *LUNULATUS*, *Lath.* (p. 275). Australia generally,
 [G., i., p. 29; R., p. 1; C., i.,
 p. 34; H., p. 3.] Tasmania.

CLXXI. *HIERACIDEA*, *Gould*.
 (Sharpe, *t. c.*, p. 276.)

278. *BERIGORA*, *Vig. and Horsf.* (p. 276). Queensland, New
 [G., i., p. 33; R., p. 1; C., i., South Wales, Vic-
 p. 36; H., p. 3.] toria, S., W., and
 N.W. Australia.

279. *ORIENTALIS*, *Schl.* (p. 276). Australia generally,
 [G., i., p. 31; R., p. 1; C., i.,
 p. 37; H., p. 3.] Tasmania.

CLXXII. *CERCHNEIS*, *Boie*.
 (Sharpe, *t. c.*, p. 276.)

280. *CENCHROIDES*, *Vig. and Horsf.* (p. 277). Australia generally,
 [G., i., p. 35; R., p. 1; C., i.,
 p. 38; H., p. 3.] Tasmania.

281. *UNICOLOR*, *Milligan*.
 [Emu, iv., p. 1, 1904: H., p.
 110.]

Sub-Order II. PANDIONES.

(Sharpe, t. c., p. 279.)

Family I. PANDIONIDÆ.

CLXXIII. PANDION, *Savign.*

(Sharpe, t. c., p. 279.)

282. LEUCOCEPHALUS, *Gould* (p. 279). Australian Coasts, [G., i., p. 22; R., p. 1; C., i., Tasmania (New p. 40; H., p. 5.) Guinea, Molucca Is.)

Order XVI. STRIGIFORMES.

(Sharpe, Handl., B., i., p. 280, 1899.)

Family I. BUBONIDÆ.

(Sharpe, t. c., p. 280.)

Sub-Family I. BUBONINÆ.

(Sharpe, t. c., p. 282.)

CLXXIV. NINOX, *Hodgs.*

(Sharpe, t. c., p. 290.)

283. BOOBOOK, *Lath.* (p. 291). Australia generally, [G., i., p. 74; R., p. 2; C., i., Tasmania (?). p. 43; H., p. 5.]

284. ALBARIA, *Ramsay* (p. 291). Lord Howe Is. [R., p. 37.]

285. OCCELLATA, *Hombr. and Jacq.* (p. 291). W. and N.W. Australia, Northern Territory, Queensland. [R., p. 2; C., i., p. 45; H., p. 5.]

286. MACULATA, *Vig. and Horsf.* (p. 291). S. Queensland, New South Wales, Victoria, King Is., Tasmania, S. Australia. [G., i., p. 76; R., p. 2; C., i., p. 45; H., p. 6.]

287. LURIDA, *De Vis.* N. Queensland. [Cf. Hartert, Nov. Zool., xii., p. 210 (1905); C., i., p. 45; H., p. 6.]

288. CONNIVENS, *Lath.* (p. 291). Australia generally, excepting the N.W. [G., i., p. 71; R., p. 2; C., i., p. 46; H., p. 6.]

289. OCCIDENTALIS, *Ramsay* (p. 291). N.W. Australia. [R., p. 2; C., i., p. 47; H., p. 6.]

290. PENINSULARIS, *Salvad.* (p. 291). N. Queensland. [R., p. 2; C., i., p. 47; H., p. 6.]

291. STRENUA, *Gould* (p. 291). Northern Territory,
[G., i., p. 68; R., p. 2; C., i., Queensland, New
p. 48; H., p. 6.] South Wales, Victoria, S. Australia.

292. RUFA, *Gould* (p. 291, pt.) Port Essington.
[Cf. Hartert, Nov. Zool., xii.,
p. 210 (1905); G., i., p. 69;
R., p. 2; C., i., p. 48, pt.;
H., p. 6.]

293. HUMERALIS, *Hombr. and Jacq.* N.E. Australia (New
(p. 292). Guinea).
[C., i., p. 49; H., p. 6.]

Family II. STRIGIDÆ.

(Sharpe, *t. c.*, p. 300.)CLXXV. STRIX, *Linn.*(Sharpe, *t. c.*, p. 300.)

294. DELICATULA, *Gould* (p. 301). Australia generally
[G., i., p. 66; R., p. 2; C., i., (New Guinea).
p. 51; H., p. 6.]

295. NOVÆ-HOLLANDIÆ, *Steph.* (p. 301). Australia generally.
[G., i., p. 64; R., p. 2; C., i.,
p. 50; H., p. 6.]

296. CASTANOPS, *Gould* (p. 301). New South Wales,
[G., i., p. 62; R., p. 2; C., i., Victoria, S. Australia,
p. 50; H., p. 6.] Tasmania.

297. TENEBRICOSA, *Gould* (p. 301). Queensland, New
[G., i., p. 65; R., p. 2; C., i., South Wales, Victoria
p. 52; H., p. 7.] (New Guinea).

298. CANDIDA, *Tick.* (p. 302). Queensland, New
[R., p. 2; C., i., p. 53; H., p. South Wales, Victoria
7.] (India, Formosa, Indo-Chinese Countries, Philip-
pine Is.)

Order XVII. PSITTACIFORMES.

(Sharpe, *Handl. B.*, ii., p. 1, 1900.)

Family I. NESTORIDÆ.

(Sharpe, *t. c.*, p. 1.)CLXXVI. NESTOR, *Wagl.*(Sharpe, *t. c.*, p. 1.)

299. PRODUCTUS, *Gould* (p. 1). Philip Is. (*extinct*).
[R., p. 38.]

300. NORFOLCENSIS, *Pelz.* (p. 1). Norfolk Is. (*extinct*).

Family II. LORIIDÆ.

(Sharpe, t. c., p. 1.)

CLXXVII. TRICHOGLOSSUS, *Vig.* and
Horsf.

(Sharpe, t. c., p. 4.)

301. NOVÆ-HOLLANDIÆ, *Gm.* (p. 5). N., E., and S. Australia.
[G., ii., p. 93; R., p. 17; C., ii., p. 592; H., p. 60.]

302. SEPTENTRIONALIS, *Robinson.* N. Queensland.
[Bull. Liverp. Mus., ii., p. 115
(1900). Cf. Salvad., *Ibis*, p.
418 (1905); H., p. 114.]

303. RUBRITORQUES, *Vig.* and *Horsf.* N.W. Australia, Northern Territory, N. (p. 5). Queensland.
[G., ii., p. 95; R., p. 17; C., ii., p. 593; H., p. 60.]

CLXXVIII. PSITTEUTELES, *Bp.*
(Sharpe, t. c., p. 5.)

304. CHLOROLEPIDOTUS, *Kuhl.* (p. 6). Queensland to New South Wales, interior of S. Australia (?).
[G., ii., p. 96; R., p. 17; C., ii., p. 594; H., p. 60.]

305. NEGLECTUS, *Reichenb.* (p. 6). N. Queensland.
[H., p. 114.]

CLXXIX. PTILOSCLERA, *Bp.*
(Sharpe, t. c., p. 6.)

306. VERSICOLOR, *Vig.* (p. 6). N.W. Australia, Northern Territory, N. Queensland.
[G., ii., p. 98; R., p. 17; C., ii., p. 595; H., p. 60.]

CLXXX. GLOSSOPSITTACUS, *Bp.*
(Sharpe, t. c., p. 6.)

307. CONCINNUS, *Shaw* (p. 6). Queensland to New South Wales, Victoria, S. Australia, Tasmania.
[G., ii., p. 100; R., p. 17; C., ii., p. 595; H., p. 60.]

308. PORPHYROCEPHALUS, *Dietr.* (p. 6). New South Wales, Victoria, S. Australia, W. Australia.
[G., ii., p. 102; R., p. 17; C., ii., p. 596; H., p. 61.]

309. PUSILLUS, *Shaw* (p. 6). Queensland to New South Wales, Victoria, S. Australia, Tasmania.
[G., ii., p. 103; R., p. 17; C., ii., p. 697; H., p. 61.]

Family III. CYCLOPSITTACIDÆ.

(Sharpe, *t. c.*, p. 8.)CLXXXI. CYCLOPSITTACUS, *Reichenb.*
(Sharpe, *t. c.*, p. 8.)

310. COXENI, *Gould* (p. 8). S. Queensland, New
[R., p. 17; C., ii., p. 598; H., South Wales.
p. 61.]

311. MACCOYI, *Gould* (p. 8). N. Queensland.
[R., p. 17; C., ii., p. 599; H.,
p. 61.]

Family IV. CACATUIDÆ.

(Sharpe, *t. c.*, p. 9.)

Sub-Family I. CACATUINÆ.

(Sharpe, *t. c.*, p. 9.)CLXXXII. MICROGLOSSUS, *Vieill.*
(Sharpe, *t. c.*, p. 9.)

312. ATERRIMUS, *Gm.* (p. 9). N. Queensland (New
[G., ii., p. 27; R., p. 16; C., ii., Guinea, Aru Is.)
p. 600; H., p. 61.]

CLXXXIII. CALYPTORHYNCHUS, *Vig.*
and Horsf.
(Sharpe, *t. c.*, p. 10.)

313. BAUDINI, *Vig.* (p. 10). S.W. Australia.
[G., ii., p. 25; R., p. 16; C.,
ii., p. 601; H., p. 61.]

314. FUNEREUS, *Shaw* (p. 10). S. Queensland, New
[G., ii., pp. 20, 22; R., p. 16;
C., ii., p. 602; H., p. 61.] South Wales, Victoria,
Tasmania, King Is.

315. BANKSI, *Lath.* (p. 10). Queensland, New
[G., ii., p. 13; R., p. 16; C., ii.,
p. 606; H., p. 62.] South Wales, Victoria,
S. Australia.

316. MACRORHYNCHUS, *Gould* (p. 10). N.W. Australia, Nor-
[G., ii., p. 15; C., ii., p. 607;
H., p. 62.] thern Territory, N.
Queensland.

317. STELLATUS, *Wagl.* (p. 10). W. and N.W. Austra-
[G., ii., p. 17; R., p. 16; C., ii.,
p. 608; H., p. 62.] lia, Central Australia.

318. VIRIDIS, *Vieill.* (p. 10). Queensland, New
[G., ii., p. 18; R., p. 16; C.,
ii., p. 609; H., p. 62.] South Wales, Victoria,
S. Australia.

CLXXXIV. CALLOCEPHALUM, *Less.*(Sharpe, *t. c.*, p. 10).319. GALEATUM, *Lath.* (p. 10).

[G., ii., p. 29; R., p. 16; C., ii., p. 610; H., p. 62.]

S. Queensland, New South Wales, Victoria, Tasmania, King Is.

CLXXXV. CACATUA, *Vieill.*(Sharpe, *t. c.*, p. 10).320. GALERITA, *Lath.* (p. 10).

[G., ii., p. 2; R., p. 15; C., ii., p. 611; H., p. 62.]

Australia generally, Tasmania, King Is.

321. LEADBEATERI, *Vig.* (p. 11).

[G., ii., p. 5; R., p. 15; C., ii., p. 612; H., p. 62.]

Interior of Australia generally.

322. GYMNOPIS, *Scl.* (p. 11).

[R., p. 15; C., ii., p. 613; H., p. 62.]

Interior of Queensland and New South Wales, S. Australia.

323. SANGUINEA, *Gould* (p. 11).

[G., ii., p. 6; R., p. 15; C., ii., p. 614; H., p. 62.]

N.W. and N. Australia, Northern Territory, Queensland, New South Wales, S. Australia.

324. ROSEICAPILLA, *Vieill.* (p. 11).

[G., ii., p. 8; R., p. 16; C., ii., p. 617; H., p. 63.]

Australia generally.

CLXXXVI. LICMETIS, *Wagl.*(Sharpe, *t. c.*, p. 11.)325. NASICA, *Temm.* (p. 11).

[G., ii., p. 11; R., p. 16; C., ii., p. 619; H., p. 63.]

Northern Territory, New South Wales, Victoria, S. Australia.

326. PASTINATOR, *Gould* (p. 11).

[G., ii., p. 12; R., p. 16; C., ii., p. 620; H., p. 63.]

W. and N.W. Australia.

Sub-Family II. CALOPSITTACINÆ.

(Sharpe, *t. c.*, p. 11.)CLXXXVII. CALOPSITTACUS, *Less.*(Sharpe, *t. c.*, p. 11.)327. NOVÆ-HOLLANDIÆ, *Gm.* (p. 11).

[G., ii., p. 81; R., p. 16; C., ii., p. 621; H., p. 63.]

Australia generally.

Sub-Family III. PALÆORNITHINÆ.

(Sharpe, *t. c.*, p. 27.)CLXXXVIII. POLYTELIS, *Wagl.*(Sharpe, *t. c.*, p. 32.)

328. BARRABANDI, *Swains.* (p. 32). S. Queensland, New South Wales, Victoria, S. Australia.
[G., ii., p. 31; R., p. 16; C., ii., p. 623; H., p. 63.]

329. MELANURA, *Vig.* (p. 32). New South Wales.
[G., ii., p. 33; R., p. 16; C., ii., p. 625; H., p. 63.] Victoria, S. Australia, W. Australia.

CLXXXIX. SPATHOPTERUS, *North.*(Sharpe, *t. c.*, p. 33.)

330. ALEXANDRÆ, *Gould* (p. 33). Central Australia.
[G., ii., p. 32; R., p. 16; C., ii., p. 623; H., p. 64.]

CXC. PTISTES, *Gould.*(Sharpe, *t. c.*, p. 33.)

331. ERYTHROPTERUS, *Gm.* (p. 33). Queensland, New South Wales, N.W. Australia, N. Territory.
[G., ii., pp. 37, 39; R., p. 16; C., ii., pp. 626, 627; H., p. 64.]

CXCI. APROSMICTUS, *Gould.*(Sharpe, *t. c.*, p. 33.)

332. CYANOPYGIUS, *Vieill.* (p. 33). Queensland, New South Wales, Victoria.
[G., ii., p. 35; R., p. 16; C., ii., p. 628; H., p. 64.]

Sub-Family IV. PLATYCERCINÆ.

(Sharpe, *t. c.*, p. 37.)CXCII. PLATYCERCUS, *Vig.*(Sharpe, *t. c.*, p. 37.)

333. PARADISEUS, *Russ.* (p. 37). Patr. ign.
334. ELEGANS, *Gm.* (p. 37). S. Queensland, New South Wales, Victoria, S. Australia.
[G., ii., p. 44; R., p. 16; C., ii., p. 629; H., p. 64.]

335. NIGRESCENS, *Ramsay* (p. 37). N. Queensland.
[R., p. 34; C., ii., p. 630; H., p. 64.]

336. ADELAIDÆ, *Gould* (p. 37). S. Australia.
[G., ii., p. 46; R., p. 16; C., ii., p. 631; H., p. 64.]

337. FLAVEOLUS, *Gould* (p. 37). New South Wales, Victoria, S. Australia.
 [G., ii., p. 50; R., p. 16; C., ii., p. 632; H., p. 64.]

338. FLAVIVENTRIS, *Temm.* (p. 37). Tasmania, Is. of Bass Strait.
 [G., ii., p. 48; R., p. 16; C., ii., p. 633; H., p. 65.]

339. PALLIDICEPS, *Vig.* (p. 37). Queensland, New South Wales.
 [G., ii., p. 51; R., p. 16; C., ii., p. 633; H., p. 65.]

340. AMATHUSIA, *Bp.* (p. 37). Northern Territory, N. Queensland.
 [G., ii., p. 52; R., p. 16; C., ii., p. 634; H., p. 65.]

341. BROWNI, *Temm.* (p. 37). Northern Territory, N.W. Australia.
 [G., ii., p. 53; R., p. 16; C., ii., p. 634; H., p. 65.]

342. ERYTHROPEPLUS, *Salvad.* (p. 38). Australia (locality?).
 [C., ii., p. 635; H., p. 65.]

343. EXIMIUS, *Shaw* (p. 38). S. Queensland, New South Wales, Victoria, S. Australia, Tasmania.
 [G., ii., p. 55; R., p. 16; C., ii., p. 635; H., p. 65.]

344. SPLENDIDUS, *Gould* (p. 38). S. Queensland, New South Wales, Interior of S. Australia.
 [G., ii., p. 57; R., p. 16; C., ii., p. 637; H., p. 65.]

345. MASTERSIANUS, *Ramsay* (p. 37). New South Wales.
 [R., p. 16; C., ii., p. 637, note; H., p. 65.]

346. XANTHOGENYS, *Salvad.* N.W. Australia.
 [C., ii., p. 639; H., p. 65, pt.]

347. ICTEROTIS, *Kuhl.* W. Australia.
 [G., ii., p. 58; R., p. 17; C., ii., p. 638; H., p. 65.]

CXCIII. PORPHYROCEPHALUS, *Reichenow.*
 (Sharpe, *t. c.*, p. 38.)

348. SPURIUS, *Kuhl.* (p. 38). W. and N.W. Australia.
 [G., ii., p. 60; R., p. 17; C., ii., p. 639; H., p. 65.]

CXCIV. BARNARDIUS, *Bp.*
 (Sharpe, *t. c.*, p. 38).

349. BARNARDI, *Vig. and Horsf.* (p. 38). S. Queensland, New South Wales, Victoria, S. Australia.
 [G., ii., p. 40; R., p. 16; C., ii., p. 640; H., p. 66.]

350. SEMITORQUATUS, *Quoy and Gaim.* W. Australia.
 (p. 38.)
 [G., ii., p. 43; R., p. 16; C.,
 ii., p. 641; H., p. 66.]

351. ZONARIUS, *Shaw* (p. 38). Int. of S. Australia,
 [G., ii., p. 43; R., p. 16; C., S.W. and W. Aus-
 ii., p. 642; H., p. 66.] tralia.

352. OCCIDENTALIS, *North.* W. and N.W. Austra-
 [Rec. Austr. Mus., ii., p. 83 lia.
 (1893); C., ii., p. 643; H., p.
 66.]

353. MACGILLIVRAYI, *North.* Gulf of Carpentaria.
 [Vict. Nat., xvii., pp. 93, 113
 (1900); H., p. 114.]

CXCV. PSEPHOTUS, *Gould.*
 (Sharpe, t. c., p. 38.)

354. HÆMATORRHOUS, *Bp.* (p. 38). S. Queensland, New
 [G., ii., p. 62; R., p. 17; C., ii., South Wales.
 p. 644; H., p. 66.]

355. XANTHORRHOUS, *Bp.* (p. 38). New South Wales, Vic-
 [G., ii., p. 63; R., p. 17; C., ii., p. toria, S. Australia,
 643; H., p. 66.] W. Australia.

356. PALLESCENS, *Salvad.* (p. 39). S. Australia.
 [H., p. 66.]

357. PULCHERRIMUS, *Gould* (p. 39). Queensland, New
 [G., p. 67; R., p. 17; C., ii., p. South Wales.
 645; H., p. 66.]

358. DISSIMILIS, *Collett* (p. 39). Northern Territory.
 [C., ii., p. 647; H., p. 66.]

359. CHRYSOPTERYGIUS, *Gould* (p. 39). N.W. Australia, Nor-
 [G., ii., p. 65; R., p. 17; C., thern Territory, N.
 ii., p. 646; H., p. 66.] Queensland.

360. MULTICOLOR, *Kuhl.* (p. 39). New South Wales,
 [G., ii., p. 68; R., p. 17; C., Victoria, S., W.,
 ii., p. 647; H., p. 67.] and N.W. Australia.

361. HÆMATONOTUS, *Gould* (p. 39). S. Queensland, New
 [G., ii., p. 69; R., p. 17; C., South Wales, Vic-
 ii., p. 648; H., p. 67.] toria, S. Australia.

CXCVI. NEOPHEMA, *Salvad.*
 (Sharpe, t. c., p. 39.)

362. BOURKEI, *Mitch.* (p. 39). New South Wales,
 [G., ii., p. 80; R., p. 17; C., Victoria, S. Austra-
 ii., p. 649; H., p. 67.] lia.

363. VENUSTA, *Temm.* (p. 39).
 [G., ii., p. 71; R., p. 17; C.,
 ii., p. 649; H., p. 67.]

364. ELEGANS, *Gould* (p. 39).
 [G., ii., p. 73; R., p. 17; C.,
 ii., p. 651; H., p. 67.]

365. CHRYSOGASTER, *Lath.* (p. 39).
 [G., ii., p. 75; R., p. 17; C.,
 ii., p. 652; H., p. 67.]

366. PETROPHILA, *Gould* (p. 39).
 [G., ii., p. 76; R., p. 17; C., ii.,
 p. 652; H., p. 67.]

367. PULCHELLA, *Shaw* (p. 39).
 (G., ii., p. 77; R., p. 17; C., ii.,
 p. 654; H., p. 67.]

368. SPLENDIDA, *Gould* (p. 39).
 [G., ii., p. 79; R., p. 17; C.,
 ii., p. 654; H., p. 68.]

CXCVII. CYANORHAMPHUS, *Bp.*
 (Sharpe, *t. c.*, p. 39.)

369. COOKI, *Gray* (p. 40). Norfolk Is.

370. SUBFLAVESCENS, *Salvad.* (p. 40). Lord Howe Is.

CXCVIII. EUPHEMA, *Wagl.*
 [*Cf.* Oberli., Smiths, Quart.,
 48, p. 61, 1905; *Nanodes*,
 Vig. and Horsf., Salvad.,
 Cat. B. Brit. Mus., xx., p.
 592 (1891); Sharpe, Handl.,
 B., ii., p. 41.]

371. DISCOLOR, *Shaw* (p. 41).
 [G., ii., p. 90; R., p. 17; C.,
 ii., p. 655; H., p. 68.]

CXCIX. MELOPSITTACUS, *Gould*.
 (Sharpe, *t. c.*, p. 41.)

372. UNDULATUS, *Shaw* (p. 41). Australia generally.
 [G., ii., p. 81; R., p. 17; C.,
 ii., p. 656; H., p. 68.]

CC. PEZOPORUS, *Illig.*
 (Sharpe, *t. c.*, p. 41.)

373. TERRESTRIS, *Shaw* (p. 41).
 [G., ii., p. 86; R., p. 17; C.,
 ii., p. 658; H., p. 68.]

New South Wales,
 Victoria, S. Australia,
 Tasmania, King Is.

S. Queensland, New
 South Wales, Victoria,
 S. Australia, W. Australia.

New South Wales,
 Victoria, S. Australia,
 Tasmania.

S. Australia, W. Australia.

S. Queensland, New
 South Wales, Victoria,
 S. Australia.

New South Wales,
 Victoria, S. Australia,
 W. Australia.

Norfolk Is.

CC1. GEOPSITTACUS, *Gould.*(Sharpe, *t. c.*, p. 41.)

374. OCCIDENTALIS, *Gould* (p. 41). Victoria, S. and Central Australia, W. [G., ii., p. 88; R., p. 17; C., ii., p. 659; H., p. 68.] and N.W. Australia.

Order XVIII. CORACIIFORMES.

(Sharpe, *Handl. B.*, ii., p. 42, 1900.)

Sub-Order I. PODARGI.

(Sharpe, *t. c.*, p. 42.)

Family I. PODARGIDÆ.

(Sharpe, *t. c.*, p. 42.)

Sub-Family I. PODARGINÆ.

(Sharpe, *t. c.*, p. 42.)CCII. PODARGUS, *Vieill.*(Sharpe, *t. c.*, p. 42.)

375. PAPUENSIS, *Quoy and Gaim* (p. Queensland to New 42). South Wales (New [G., i., p. 91; R., p. 2; C., ii., p. 538; H., p. 55.] Guinea).

376. STRIGOIDES, *Lath.* (p. 42). Australia generally, [G., i., pp. 84, 87; R., p. 2; C., ii., p. 539; H., p. 55.] Tasmania.

377. PHALÆNOIDES, *Gould* (p. 42). Northern Territory, [G., i., pp. 89, 90; R., p. 2; C., ii., p. 540; H., p. 55.] Queensland, Central Australia, S. Australia, W. Australia.

378. MARMORATUS, *Gould* (p. 43). Queensland. [G., i., p. 94; R., p. 2; C., ii., p. 542; H., p. 55.]

Sub-Family II. ÆGOTHELINÆ.

(Sharpe, *t. c.*, p. 44.)CCIII. ÆGOTHELES, *Vig. and Horsf.*
(Sharpe, *t. c.*, p. 44.)

379. NOVÆ-HOLLANDIÆ, *Lath.* (p. 44). Australia generally. [G., i., pp. 79, 81; R., p. 2; C., ii., p. 542; H., p. 55.] Tasmania.

380. RUFA, *Hall.* North-West Australia
 [Vic. Nat., xviii., p. 89 (1901); (Derby).
rufescens, Hall, t.c., p. 60,
nec Salvad. Cf. Hartert,
 Nov. Zool., vol. xii., p. 216
 (1905); H., p. 114.]

Sub-Order II. CORACIÆ.

(Sharpe, t. c., p. 45.)

Family I. CORACIIDÆ.

(Sharpe, t. c., p. 45.)

Sub-Family I. CORACIINÆ.

(Sharpe, t. c., p. 46.)

CCIV. EURYSTOMUS, *Vieill.*

(Sharpe, t. c., p. 47.)

381. PACIFICUS, *Lath.* (p. 47). Australia except S.
 [*australis*, Swains. Cf. Sharpe, and W., Lord Howe
 Hist. Coll. Brit. Mus., ii., Is. (New Zealand,
 p. 119 (1906); G., i., p. 119; Molucca Is., Celebes,
 R., p. 3; C., ii., p. 544; H., Lesser Sunda
 p. 56.] Is.)

Sub-Order III. HALCYONES.

(Sharpe, t. c., p. 48.)

Family I. ALCEDINIDÆ.

(Sharpe, t. c., p. 48.)

Sub-Family I. ALCEDININÆ.

(Sharpe, t. c., p. 48.)

CCV. ALCYONE, *Swains.*

(Sharpe, t. c., p. 52.)

382. AZUREA, *Lath.* (p. 52). Queensland, New
 [G., i., pp. 139, 141; R., p. 3; South Wales, Vic-
 C., ii., p. 547; H., p. 56.] toria, S. Australia,
 Tasmania.

383. PULCHRA, *Gould* (p. 52). N.W. Australia, Nor-
 [G., i., p. 141; R., p. 3; C., thern Territory, N.
 ii., p. 549; H., p. 56.] Queensland.

384. PUSILLA, *Temm.* (p. 52). Northern Territory,
 [G., i., p. 142; R., p. 3; C., N. Queensland (New
 ii., p. 550; H., p. 56.) Guinea, Papuan Is.,
 Molucca Is.)

CCVI. SYMA, *Less.*(Sharpe, *t. c.*, p. 55.)

385. FLAVIROSTRIS, *Gould* (p. 55). Northern Territory,
 [G., i., p. 135; R., p. 3; C., N. Queensland.
 ii., p. 550; H., p. 57.]

CCVII. DACELO, *Leach.*(Sharpe, *t. c.*, p. 55.)

386. GIGAS, *Bodd.* (p. 55). Queensland to New
 [minor, Robinson, Bull. Liv. South Wales, Vic-
 Mus., ii., p. 116 (1900); *id.* toria, S. Australia.
 and Laver, *Ibis*, p. 638
 (1900); G., i., p. 122; R., p.
 3; C., ii., p. 551; H., p.
 57.]

387. LEACHI, *Vig. and Horsf.* (p. 55). Northern Territory,
 [G., i., p. 124; R., p. 3; C., Queensland.
 ii., p. 554; H., p. 57.]

388. CERVINA, *Gould* (p. 56). W. and N.W. Australia,
 [G., i., p. 125; R., p. 3; C., Northern Territory,
 ii., p. 555; H., p. 57.] N. Queensland.

CCVIII. HALCYON, *Swains.*(Sharpe, *t. c.*, p. 56.)

389. MACLEAYI, *Jard. and Selby* (p. N.W. Australia, Nor-
 58). thern Territory,
 [G., i., p. 133; R., p. 3; C., Queensland to New
 ii., p. 556; H., p. 57.] South Wales (Is. of
 Torres Strait, S.E. New Guinea).

390. PYRRHOPYGIUS, *Gould* (p. 59). Australia generally.
 [G., i., p. 130; R., p. 3; C.,
 ii., p. 557; H., p. 57.]

391. SANCTUS, *Vig. and Horsf.* (p. Australia, Tasmania,
 60). (Solomon Is., New
 [G., i., p. 128; R., p. 3; C., Hebrides, New
 ii., p. 558; H., p. 57.] Guinea, Celebes,
 Molucca Is., Greater and Lesser Sunda
 Is.)

392. WESTRALASIANUS, *Campbell.* W. Australia.
 [Emu, i., p. 25 (1901).]

393. VAGANS, *Less.* (p. 60). Norfolk Is., Lord Howe Is. (New Zealand).

[R., p. 37.]

394. SORDIDUS, *Gould* (p. 60). Northern Territory, Queensland (Aru Is.).

[G., i., p. 132; R., p. 3; C., ii., p. 560; H., p. 57.]

CCIX. TANYSIPTERA, *Vig.*
(Sharpe, *t. c.*, p. 62.)

395. SYLVIA, *Gould* (p. 62). N. Queensland.

[G., i., p. 137; R., p. 3; C., ii., p. 561; H., p. 58.]

Sub-Order IV. MEROPES.

(Sharpe, *t. c.*, p. 72.)

Family I.—MEROPIDÆ.

(Sharpe, *t. c.*, p. 72.)

CCX. MEROPS, *Linn.*
(Sharpe, *t. c.*, p. 73.)

396. ORNATUS, *Lath.* (p. 74). Australia generally
[G., i., p. 117; R., p. 3; C., ii., p. 545; H., p. 56.] (Molucca Is., Celebes, Lesser Sunda Is.)

Sub-Order V. CAPRIMULGI.

(Sharpe, *t. c.*, p. 78.)

Family I. CAPRIMULGIDÆ.

(Sharpe, *t. c.*, p. 78.)

Sub-Family I. CAPRIMULGINÆ.
(Sharpe, *t. c.*, p. 79.)

CCXI. EUROSTOPUS, *Gould* (p. 80.)
(Sharpe, *t. c.*, p. 80.)

397. ALBICULARIS, *Vig. and Horsf.* (p. 80). Queensland, New South Wales, Victoria, S. Australia (New Guinea).

[G., i., p. 96; R., p. 2; C., ii., p. 535; H., p. 55.]

398. ARGUS, *Hartert* (p. 81). Australia generally (Aru Is., New Ireland).

[G., i., p. 98; R., p. 2; C., ii., p. 536; H., p. 55.]

CCXII. CAPRIMULGUS, *Linn.*(Sharpe, *t. c.*, p. 84.)

399. MACRURUS, *Horsf.* (p. 87).
 [G., i., p. 100; R., p. 2.; C.,
 ii., p. 534; H., p. 54.] N.W. Australia, Nor-
 thern Territory, Queensland, New South Wales (Pap-
 uan Is., Philippine Is., Greater Sunda Is.)

Sub-Order VI. CYPSELI.

(Sharpe, *t. c.*, p. 88.)

Family I. CYPSELIDÆ.

(Sharpe, *t. c.*, p. 89.)

Sub-Family I. CHÆTURINÆ.

(Sharpe, *t. c.*, p. 89.)CCXIII. SALANGANA, *Thumb.*

[*Cf.* Richmond, Pr. U.S. Nat. Mus., xxvi., p. 503 (1903); *Collocalia*, Gray; Sharpe, Handl., B., ii., p. 89.]

400. ESCULENTA, *Linn.* (p. 91).
 [C., ii., p. 533; H., p. 144]. N. Queensland (Pap-
 uan Is., New Guinea, Celebes, Molucca Is.)

401. FRANCICA, *Gm.* (p. 90).
 [R., p. 2; C., ii., p. 532; H., p. 54.] N. Queensland (Oce-
 ания, Ternate, Mau-
 ritius, Reunion).

CCXIV. CHÆTURA, *Steph.*(Sharpe, *t. c.*, p. 91.)

402. CAUDACUTA, *Lath.* (p. 91).
 [G., i., p. 103; R., p. 2; C.,
 ii., p. 531; H., p. 54.] Australia, Tasmania
 (N. Siberia, Japan, China).

CCXV. CYPSELUS, *Illiger.*(Sharpe, *t. c.*, p. 95.)

403. PACIFICUS, *Lath.* (p. 96).
 [G., i., p. 105; R., p. 3; C., ii.,
 p. 530; H., p. 54.] Australia generally,
 Tasmania (E. Si-
 beria, Japan, China,
 Indo-Chinese Coun-
 tries).

Order XIX. COCCYGES.

(Sharpe, Handl., B., ii., p. 152, 1900.)

Sub-Order I. CUCULI.

(Sharpe, t. c., p. 155.)

Family I. CUCULIDÆ.

(Sharpe, t. c., p. 155.)

Sub-Family I. CUCULINÆ.

(Sharpe, t. c., p. 155.)

CCXVI. CUCULUS, Linn.

(Sharpe, t. c., p. 158.)

404. SATURATUS, *Hodgs.* (p. 158). [*intermedius*, Vahl., Shelley, Cat. B. Brit. Mus., xix., p. 252; G., i., p. 614; R., p. 15; C., ii., p. 563; H., p. 58.] Queensland, New South Wales, *accid.* (E. Siberia, Japan, China, India, Malay Peninsula, Philippine Is., New Guinea, Papuan Is.)

405. INORNATUS, *Vig. and Horsf.* [*Cf. North, Ibis*, 1906 (Jan.); *pallidus* (auct., *nec Lath.*), p. 159; G., i., p. 615; R., p. 15; C., ii., p. 564; H., p. 58.] Australia generally, Tasmania.

CCXVII. CACOMANTIS, S. Müll.

(Sharpe, t. c., p. 159.)

406. RUFULUS (p. 159). [*flabelliformis*, G., i., p. 618; R., p. 15; C., ii., p. 568; H., p. 58. *Cf. North, Ibis*, 1906 (Jan.)] Australia generally, Tasmania (Aru Is.)

407. FLABELLIFORMIS (p. 160). [*variolosus*, Horsf.; G., i., pp. 619, 620; R., p. 15; C., ii., p. 572; H., p. 58. *Cf. North, Ibis*, 1906 (Jan.)] Australia generally (New Guinea, Molucca Is., Timor).

408. CASTANEVENTRIS, *Gould* (p. 160). [R., p. 15; C., ii., p. 574; H., p. 58.] N. Queensland (New Guinea, Aru Is.)

CCXVIII. MESOCALIUS, Cab.

(Sharpe, t. c., p. 160.)

409. PALLIOLATUS, *Lath.* (p. 160). [G., i., p. 621; R., p. 15; C., ii., p. 575; H., p. 59.] Australia generally (Aru Is., Molucca Is.)

CCXIX. CHALCOCOCCYX, *Cab.*(Sharpe, *t. c.*, p. 161.)

410. BASALIS, Horsf. (p. 162).
 [G., i., p. 626; R., p. 15; C.,
 ii., p. 576; H., p. 59.] Australia generally,
 Tasmania (Aru Is.,
 Lesser Sunda Is.,
 S. Celebes, Java,
 Malay Peninsula).

411. LUCIDUS, *Gm.* (p. 162).
 [R., p. 15, pt.; C., ii., p. 580;
 H., p. 59.] E. Australia, Tas-
 mania (New Zea-
 land, Chatham Is.,
 Macquarie Is., *ac-
 cid.*)

412. PLAGOSUS, *Lath.* (p. 162).
 [G., i., p. 623; R., p. 15; C.,
 ii., p. 582; H., p. 59.] Australia generally,
 Tasmania (S. New
 Guinea, Papuan Is.,
 New Caledonia).

413. MALAYANUS, *Raffl.* (p. 162).
 [G., i., p. 625; R., p. 15; C.,
 ii., p. 584; H., p. 116.] N.W. Australia, Nor-
 thern Territory, N.
 Queensland (New
 Guinea, Papuan
 Is., Molucca Is.,
 Celebes, Greater
 and Lesser Sunda
 Is., Philippine Is.,
 Malay Peninsula).

414. PECILURUS, *Gray* (p. 162).
 [R., p. 15; C., ii., p. 586; H.,
 p. 59.] N.W. Australia, Nor-
 thern Territory, N.
 Queensland (New
 Guinea, Aru Is.,
 Timor, Molucca Is.)

CCXX. EUDYNAMIS, *Vig.* and *Horsf.*(Sharpe, *t. c.*, p. 164.)

415. CYANOCEPHALA, *Lath.* (p. 165).
 [G., i., p. 632; R., p. 15; C.,
 ii., p. 586; H., p. 59.] N.W. Australia, Nor-
 thern Territory,
 Queensland, New
 South Wales (New
 Guinea, Goram,
 Timor).

CCXXI. SCYTHROPS, *Lath.*(Sharpe, *t. c.*, p. 165.)

416. NOVE-HOLLANDIE, *Lath.* (p. 165).
 [G., i., p. 628; R., p. 15; C.,
 ii., p. 588; H., p. 59.] Australia generally,
 Tasmania, *accid.*
 (New Guinea, Pap-
 uan Is., Molucca Is.,
 Celebes, Flores).

Sub-Family II. CENTROPODINÆ.

(Sharpe, *t. c.*, p. 166.)

CCXXII. CENTROPOUS, Illiger.

(Sharpe, *t. c.*, p. 166.)

417. PHASIANUS, Lath. (p. 166).

[G., i., pp. 634-636; R., p. 15; C., ii., p. 590; H., p. 60.] N.W. Australia, Northern Territory, Queensland, New South Wales.

Order XX. MENURIFORMES.

(Sharpe, Handl. B., iii., p. 3, 1901.)

Family I. MENURIDÆ.

(Sharpe, *t. c.*, p. 3.)

CCXXIII. MENURA, Davies.

(Sharpe, *t. c.*, p. 3.)

418. SUPERBA, Davies (p. 3).

[G., i., p. 298; R., p. 7; C., i., p. 507; H., p. 52.] New South Wales.

419. VICTORIÆ, Gould (p. 3).

[G., i., p. 302; R., p. 7; C., i., p. 510; H., p. 53.]

Victoria.

420. ALBERTI, Gould (p. 3).

[G., ii., p. 307; R., p. 7; C., i., p. 523; H., p. 53.] Wide Bay and Richmond River Districts.

Order XXI. PASSERIFORMES.

(Sharpe, Handl. B., iii., p. 4, 1901.)

Sub-Order I. MESOMYODI

(Sharpe, *t. c.*, p. 4.)

Family I. PITTIIDÆ.

(Sharpe, *t. c.*, p. 179.)

CCXXIV. PITTA, Vieill.

(Sharpe, *t. c.*, p. 179.)

421. STREPITANS, Temm. (p. 181).

[G., i., p. 430; R., p. 10; C., ii., p. 525; H., p. 53.] Queensland, South Wales (S. New Guinea).

New

422. SIMILLIMA, *Gould.* N. Queensland.
 [C., ii., p. 526; H., p. 53.]

423. MACKLOTI, *Müll. and Schl.* (p. N. Queensland, (New
 183). Guinea, Aru Is.)
 [R., p. 11; C., ii., p. 528; H.,
 p. 53.]

424. IRIS, *Gould* (p. 184). N.W. Australia, Nor-
 [G., i., p. 432; R., p. 11; C., thern Territory.
 ii., p. 529; H., p. 53.]

Sub-Order II. ACROMYODI.
 (Sharpe, *t. c.*, p. 187.)

A.—PASSERES ABNORMALES.

Family I. ATRICHORNITHIDÆ.
 (Sharpe, *t. c.*, p. 187.)

CCXXV. ATRICHORNIS, *Stejn.*
 (Sharpe, *t. c.*, p. 187.)

425. CLAMOSA, *Gould* (p. 187). W. and S.W. Austra-
 [G., i., p. 344; R., p. 8; C., lia.
 i., p. 504; H., p. 52.]

426. RUFESCENS, *Ramsay* (p. 187). Richmond and Cl-
 [R., p. 8; C., i., p. 505; H., rence River Dis-
 p. 82.] tricts (N.S.W.)

B.—PASSERES NORMALES.

Family I. HIRUNDINIDÆ.
 (Sharpe, *t. c.*, p. 187.)

CCXXVI. HIRUNDO, *Schaeffer.*
 (Sharpe, *t. c.*, p. 192.)

427. GUTTURALIS, *Scop.* (p. 193). N. Australia (N. Asia
 to Malay Archipelago, New Gui-
 nea).

428. JAVANICA, *Sparrm.* (p. 194). Is. of Torres Strait
 [G., i., p. 110; R., p. 2; C., (Malay Archipelago,
 i., p. 450; H., p. 47.] Burma, S. India).

429. NEOXENA, *Gould* (p. 194). Australia generally,
 [G., i., p. 107; R., p. 2; C., Tasmania.
 i., p. 450; H., p. 47.]

CCXXVII. CHERAMŒCA, *Cab.*
(Sharpe, *t. c.*, p. 198.)

430. LEUCOSTERNUM, *Gould* (p. 198). Central Queensland,
[G., i.; p. 115; R., p. 3; C., New South Wales,
i., p. 454; H., p. 47.] Victoria, S. Australia,
Australia.

CCXXVIII. PETROCHELIDON, *Cab.*
(Sharpe, *t. c.*, p. 200.)

431. NIGRICANS, *Vieill.* (p. 200). Australia generally,
[G., i., p. 111; R., p. 3; C., Tasmania (New Zealand,
i., p. 456; H., p. 47.) New Guinea,
Papuan Is., Molucca Is.)

432. ARIEL, *Gould* (p. 201). Australia generally,
[G., i., p. 113; R., p. 3; C., Tasmania,
i., p. 457; H., p. 47.]

Family II. MUSCICAPIDÆ.

(Sharpe, *t. c.*, p. 204.)

CCXXIX. MICRŒCA, *Gould*.
(Sharpe, *t. c.*, p. 205.)

433. FASCINANS, *Lath* (p. 205). Queensland, New
[G., i., p. 258; R., p. 6; C., i., South Wales, Victoria,
p. 105; N., i., p. 149; H., S. Australia.
p. 13.]

434. ASSIMILIS, *Gould* (p. 205). W. and N. Australia.
[G., i., p. 260; R., p. 6; C.,
i., pp. 106, 1,075; H., p.
13.]

435. PALLIDA, *De Vis.* N. Queensland.
[C., i., pp. 108, 1,075; N., i.,
p. 152; H., p. 13.]

436. BRUNNEICAUDA,* *Campbell.* N. Australia.
[*Emu*, ii., p. 85 (1902); H., p.
110.]

437. FLAVIVENTRIS, *Salvad.* (p. 205). Northern Territory.
[*flavigaster*, *Gould*; G., i., p. N. and N.E. Queens-
261; R., p. 6; C., i., p. 107; land (S.E. New
N., i., p. 153; H., p. 13.) Guinea).]

CCXXX. PETRŒCA, *Swains.*
(Sharpe, *t. c.*, p. 220.)

438. LEGGEI, *Sharpe* (p. 220). S. Queensland, New
[G., i., p. 279; R., p. 7; C., South Wales, Victoria,
i., p. 134; N., i., p. 163; H., S. Australia,
p. 13.] Tasmania.

* Described from a mutilated specimen. Other specimens since received prove it to be a species already known.—A.J.C.

439. CAMPBELLII, *Sharpe* (p. 220). W. Australia.
 [C., i., p. 136; H., p. 13.]

440. PHœNICEA, *Gould* (p. 220.) S. Queensland, New South Wales, Victoria, S. Australia, Tasmania, Is. of Bass Strait.
 [G., i., p. 282; R., p. 7; C., i., p. 136; N., i., p. 165; H., p. 13.]

441. MULTICOLOR, *Gm.* (p. 220). Norfolk Is.
 [R., p. 7; note, p. 37.]

442. RHODINOGASTER, *Drap.* (p. 221). Victoria, S. Australia, Tasmania, Is. of Bass Strait.
 [G., i., p. 276; R., p. 7; C., i., p. 138; N., i., p. 161; H., p. 14.]

443. ROSEA, *Gould* (p. 221). Queensland, New South Wales, Victoria.
 [G., i., p. 277; R., p. 7; C., i., p. 139; N., i., p. 159; H., p. 13.]

444. GOODENOVII, *Vig. and Horsf.* (p. 221). S. Queensland, New South Wales, Victoria, S. Australia, W. Australia.
 [G., i., p. 280; R., p. 7; C., i., p. 143; N., i., p. 168; H., p. 13.]

445. RAMSAYI, *Sharpe* (p. 221). N.W. and N. Australia.
 [R., p. 7; C., i., p. 144; H., p. 14.]

446. BICOLOR, *Vig. and Horsf.* (p. 221). S. Queensland, New South Wales, Victoria, S. Australia, W. and N.W. Australia.
 [G., i., p. 283; R., p. 7; C., i., p. 144; N., i., p. 170; H., p. 14.]

447. PICATA, *Gould* (p. 221). N. and N.W. Australia.
 [Cf. Hartert, Nov. Zool., xii., p. 220 (1905); G., i., p. 285; R., p. 7; C., i., p. 146; N., i., p. 171; H., p. 14.]

448. VITTATA, *Quoy and Gaim.* (p. 222). Tasmania, King Is., Furneaux Is.
 [G., i., p. 286; R., p. 7; C., i., p. 147; N., i., p. 173; H., p. 14.]

CCXXXI. SMICRORNIS, *Gould*.
 (Sharpe, *t. c.*, p. 225.)

449. BREVIROSTRIS, *Gould* (p. 225). S. Queensland, New South Wales, Victoria, S. Australia, W. Australia.
 [G., i., p. 273; R., p. 7; C., i., p. 153; N., i., p. 189; H., p. 14.]

450. FLAVESCENS, *Gould* (p. 225). N.W. and N. Australia
 [G., i., p. 274; R., p. 7; C., i., p. 154; N., i., p. 190; H., p. 14.] N. Queensland, Central Australia.

CCXXXII. GERYGONE.

(Sharpe, *t. c.*, p. 225.)

451. ALBIGULARIS, *Gould* (p. 225). N.W. and N. Australia
 [G., i., p. 266; R., p. 6; C., i., p. 155; N., i., p. 192; H., p. 14.] N. Queensland, New South Wales, Victoria.

452. CINERASCENS, *Sharpe* (p. 225). N.W. Australia (S. and E. New Guinea).
 [Cf. Hartert, Nov. Zool., xii., p. 221; R., p. 6; C., i., p. 156; H., p. 14.]

453. THORPI, *Ramsay*. Lord Howe Is.
 [Pr. Linn. Soc. N.S.W., ii., p. 677 (1888); R., p. 37.]

CCXXXIII. PSEUDOGERYGONE, *Sharpe*.(Sharpe, *t. c.*, p. 227.)

454. MODESTA, *Pelz.* (p. 227). Norfolk Is.
 [R., p. 37.]

455. CULICIVORA, *Gould* (p. 228). Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. Australia.
 [G., i., p. 268; R., p. 6; C., i., p. 157; N., i., p. 198; H., p. 14.]

456. CONSPICILLATA, *Gray* (p. 229). Cape York (New Guinea).
 [Zosterops fusca, Bernst. (*nec* *Gerygone fusca*, *Gould*). Cf. Handl., iii., p. 229.]

457. MAGNIROSTRIS, *Gould* (p. 229). N. and N.E. Australia.
 [G., i., p. 270; R., p. 6; C., i., p. 158; N., i., p. 199; H., p. 15.]

458. INSULARIS, *Ramsay* (p. 229). Lord Howe Is.
 [R., p. 37.]

459. FUSCA, *Gould* (p. 229). Queensland, New South Wales, Victoria.
 [G., i., p. 267; R., p. 6; C., i., p. 159; N., i., p. 195; H., p. 15.]

460. PALLIDA, *North*. Queensland.
 [Nests and Eggs of B., i., p. 196 (1903).]

461. BRUNNEIPECTUS, *Sharpe* (p. 228). N. Queensland (New Guinea, Aru Is.).
 [C., i., p. 158; H., p. 15.]

462. LÆVIGASTER, *Gould* (p. 229). N.W. and N. Australia.
 [G., i., p. 270; R., p. 6; C., i., p. 160; N., i., p. 200; H., p. 14.]

463. MASTERSI, *Sharpe* (p. 229). N. Australia.
 [R., p. 7; C., i., p. 161.]

464. TENEBROSA, *Hall*. N.W. Australia, Fitzroy River.
 [Vic. Nat., xviii., p. 76 (1901); H., p. 110.]

465. CHLORONOTA, *Gould* (p. 231). N. Australia.
 [G., i., p. 271; R., p. 6; C., i., p. 161; H., p. 15.]

466. PERSONATA, *Gould* (p. 231). N. Queensland (S.E. New Guinea).
 [R., p. 7; C., i., p. 161; N., i., p. 202; H., p. 15.]

467. FLAVIDA, *Ramsay*. N.E. Australia.
 [Cf. De Vis, Ann. Queensl. Mus., No. 6, p. 41 (1905); R., p. 7.]

CCXXXIV. HETEROMYIAS, *Sharpe*.
 (Sharpe, *t. c.*, p. 233.)

468. CINEREIFRONS, *Ramsay* (p. 233). N.E. Queensland.
 [R., p. 7; C., i., p. 317; N., i., p. 175; H., p. 15.]

CCXXXV. PŒCILODRYAS, *Gould*.
 (Sharpe, *t. c.*, p. 234.)

469. CERVINIVENTRIS, *Gould* (p. 234). N.W. Australia, Northern Territory.
 [G., i., p. 288; R., p. 7; C., i., p. 150; N., i., p. 176; H., p. 15.]

470. SUPERCILIOSA, *Gould* (p. 234). N. Queensland.
 [G., i., p. 289; R., p. 7; C., i., p. 149; N., i., p. 178; H., p. 15.]

471. CINEREICEPS, *Hartert*. N.W. Australia.
 [Nov. Zool., xii., p. 231 (1905); H., p. 110.]

472. PULVERULENTUS, *Bp.* Northern Territory, N. Queensland
 [C., i., p. 316.]

473. ALBIFACIES, *Sharpe*. Cape York (S.E. New Guinea).
 [J. Linn. Soc. Zool., xvi., pp. 318, 432 (1882); *Monachella viridis*, De Vis, Rep. Orn. Sp. New Guinea, p. 3 (1894); C., i., p. 152; H., p. 15.]

474. CAPITO, <i>Gould</i> (p. 236).	Queensland, New South Wales.
[G., i., p. 297; R., p. 7; C., i., p. 150; N., i., p. 179; H., p. 15.]	
475. NANA, <i>Ramsay</i> (p. 236).	N.E. Queensland.
[R., p. 7; C., i., p. 151; N., i., p. 180; H., p. 15.]	
XXXVI. RHIPIDURA, <i>Vig.</i> and <i>Horsf.</i>	
[Sharpe, <i>t. c.</i> , p. 252.]	
476. ALBISCAPA, <i>Gould</i> (p. 252).	Queensland, New South Wales, Victoria, S. Australia.
[G., i., p. 238; R., p. 6; C., i., p. 108; N., i., p. 121; H., p. 17.]	
477. PHASIANA, <i>De Vis.</i>	N. Australia, N. Queensland.
[<i>Emu</i> , iii., p. 54 (1903); C., i., p. 116; H., p. 18.]	
478. DIEMENENSIS, <i>Sharpe</i> (p. 252).	Tasmania, Is. of Bass Strait.
[R., p. 6; C., i., p. 112; N., i., p. 125; H., p. 18.]	
479. ALBICAUDA, <i>North</i> (p. 252).	Central Australia.
[C., i., p. 115; N., i., p. 126; H., p. 17.]	
480. PREISSI, <i>Cab.</i> (p. 252).	W. and N.W. Australia.
[<i>Cf.</i> Hall, <i>Ibis</i> , p. 134 (1902); Milligan, <i>Emu</i> , iv., p. 50 (1904); G., i., p. 240; R., p. 6; C., i., p. 110; N., i., p. 124; H., p. 17.]	
481. PELZELNI, <i>Gray</i> (p. 253).	Norfolk Is.
[R., p. 37.]	
482. CERVINA, <i>Ramsay</i> (p. 253).	Lord Howe Is.
[R., p. 37.]	
483. RUFIFRONS, <i>Lath.</i> (p. 255).	Queensland, New South Wales, Victoria.
[G., i., p. 240; R., p. 6; C., i., p. 112; N., i., p. 127; H., p. 17.]	
484. INTERMEDIA, <i>North</i> .	N.E. Queensland.
[<i>Cf.</i> Slater, <i>Bull. B.O.C.</i> , xiv., p. 8 (1904); Hartert, <i>t. c.</i> , p. 10; N., i., p. 130; H., p. 111.]	
485. DRYAS, <i>Gould</i> (p. 256).	Northern Territory, N. Queensland.
[G., i., p. 242; R., p. 6; C., i., p. 114; N., i., p. 131; H., p. 17.]	

486. ISURA, *Gould* (p. 260). N.W. Australia, Northern Territory, N. Queensland.
 [G., i., p. 242; R., p. 6; C., i., p. 114; N., i., p. 131; H., p. 17.]

487. TRICOLOR, *Vieill.* (p. 261). Australia generally (New Guinea, Papuan Is., Aru Is., Molucca Is.)
 [G., i., p. 244; R., p. 6; C., i., p. 116; N., i., p. 132; H., p. 18.]

CCXXXVII. MYIAGRA, *Vig. and Horsf.*
 (Sharpe, *t. c.*, p. 268).

488. RUBECULA, *Lath.* (p. 268). Australia generally, Tasmania (S.E. New Guinea).
 [G., i., p. 252; R., p. 6; C., i., p. 119; N., i., p. 143; H., p. 18.]

489. CONCINNA, *Gould* (p. 268). Queensland, N. and N.W. Australia.
 [G., i., p. 254; R., p. 6; C., i., p. 120; N., i., pp. 144, 145; H., p. 18.]

490. NITIDA, *Gould* (p. 268). Queensland, New South Wales, Victoria, S. Australia, Tasmania (Louisiade Archipelago).
 [G., i., p. 255; R., p. 6; C., i., p. 121; N., i., p. 146; H., p. 18.]

491. LATIROSTRIS, *Gould* (p. 270). N. and N.W. Australia, N. Queensland, (S.E. New Guinea, Aru Is.)
 [G., i., p. 256; R., p. 6; C., i., p. 122; H., p. 18.]

CCXXXVIII. MACHÆRIRHYNCHUS,
Gould.
 (Sharpe, *t. c.*, p. 272).

492. FLAVIVENTER, *Gould* (p. 272). Queensland.
 [G., i., p. 257; R., p. 6; C., i., p. 123; N., i., p. 147; H., p. 18.]

CCXXXIX. SISURA, *Vig. and Horsf.*
 (Sharpe, *t. c.*, p. 277.)

493. INQUIETA, *Lath.* (p. 277). Australia generally.
 [G., i., p. 246; R., p. 6; C., i., p. 124; N., i., p. 135; H., p. 19.]

494. NANA, *Gould* (p. 277). N.W. Australia, Northern Territory, New South Wales.
 [R., p. 6; C., i., p. 126; N., i., p. 137; H., p. 19.]

CCXL. ARSES, *Kaup.*(Sharpe, *t. c.*, p. 277.)

495. KAUPI, *Gould* (p. 278). Northern Territory, N.
 [G., i., p. 251; R., p. 6; C., i., Queensland.
 p. 126; N., i., p. 138; H., p. 19.]

496. LOREALIS, *De Vis* (p. 278). N. Queensland.
 [C., i., p. 128; N., i., p. 139;
 H., p. 19.]

CCXLI. PIEZORHYNCHUS, *Gould.*(Sharpe, *t. c.*, p. 278.)

497. NITIDUS, *Gould* (p. 278). Northern Territory,
 [G., i., p. 249; R., p. 6; C., i., N.E. Queensland
 p. 129; N., i., p. 141; H., p. (Aru Is., Tenimber
 19.] Is.)

498. ALBIVENTER, *Gould* (p. 279). N. Queensland and Is.
 [R., p. 6; C., i., p. 131; N., i., of Torres Strait.
 p. 158; H., p. 20.]

499. GOULDI, *Gray* (p. 279). Queensland, New
 [medius, Sharpe, p. 279; G., South Wales.
 i., p. 263; R., p. 6; C., i., p. 130; N., i., p. 157; H., p. 19.]

500. LEUCOTIS, *Gould* (p. 281). Queensland, New
 [G., i., p. 264; R., p. 6; C., South Wales (Louis-
 i., p. 132; H., p. 20.] iade Archipelago).

CCXLII. MONARCHA, *Vig.* and *Horsf.*(Sharpe, *t. c.*, p. 283).

501. MELANOPSIS, *Vicill.* (p. 283). Northern Territory,
 [G., i., p. 262; R., p. 6; C., i., Queensland, New
 p. 132; N., i., p. 154; H., p. South Wales, Vic-
 20.] toria (S. New Guinea, Timor).

502. CANESCENS, *Salvad.* (p. 283). N. Queensland.
 [R., p. 6; C., i., p. 134; N., i., p. 154; H., p. 20.]

Family III. CAMPOPHAGINÆ.

(Sharpe, *t. c.*, p. 286.)CCXLIII. PTEROPODOCYS, *Gould.*(Sharpe, *t. c.*, p. 290.)

503. PHASIANELLA, *Gould* (p. 290). S. Queensland, New
 [G., i., p. 199; R., p. 5; C., i., South Wales, Vic-
 pp. 95, 1,082; N., i., p. 110; toria, Central Aus-
 H., p. 11.] tralia, W. Australia.

CCXLIV. CORACINA, Vieill.

(Graucalus, Sharpe, t. c., p. 290.)

504. ROBUSTA, Lath.

[melanops, Lath, p. 291. Cf. Sharpe, Hist. Coll. Brit. Mus., p. 113 (1906); G., i., p. 192; R., p. 4; C., i., p. 96; N., i., p. 103; H., p. 12.]

Australia generally (New Zealand (ac-
cid.), New Guinea,
Celebes, Molucca
Is., &c.)

505. PARVIROSTRIS, Gould (p. 291).

[G., i., p. 194; R., p. 4; C., i., p. 97; N., i., p. 105; H., p. 12.]

Tasmania, Is. of Bass
Strait.

506. HYPOLEUCA, Gould (p. 292).

[G., i., p. 196; R., p. 4; C., i., p. 98; N., i., p. 109; H., p. 12.]

N.W. Australia, Nor-
thern Territory, N.
Queensland, Is. of
Torres Strait (S.E.
New Guinea, Aru
Is., Solomon Is.)

507. MENTALIS, Vig. and Horsf. (p. 293).

[G., i., p. 195; R., p. 4; C., i., p. 98; N., i., p. 107; H., p. 12.]

Queensland, New
South Wales, Vic-
toria, S. Australia.

508. LINEATA, Swains. (p. 293).

[G., i., p. 197; R., p. 4; C., i., p. 99; H., p. 12.]

E. Australia.

CCXLV. EDOLIISOMA, Jacq. and Pucher.

(Sharpe, t. c., p. 294.)

509. TENUIROSTRE, Jard. (p. 297).

[G., i., p. 200; R., p. 5; C., i., p. 100; N., i., p. 113; H., p. 12.]

Northern Territory,
Queensland, New
South Wales, Vic-
toria.

CCXLVI. LALAGE, Boie.

(Sharpe, t. c., p. 302.)

510. TRICOLOR, Swains. (p. 303).

[G., i., p. 204; R., p. 5; C., i., p. 103; N., i., p. 117; H., p. 12.]

Australia generally
(S.E. New Guinea).

511. LEUCOMELENA, Vig. and Horsf. (p. 305).

[G., i., pp. 202, 203; R., p. 5; C., i., p. 104; N., i., p. 116; H., p. 13.]

Northern Territory,
Queensland, N.E.
New South Wales,
Torres Strait.

CCXLVII. DIAPHOROPTERUS, Oberh.

(Sharpe, t. c., p. 305.)

512. LEUCOPYGIUS, Gould (p. 305).

[R., p. 37.]

Norfolk Is.

Family IV. TIMELIIDÆ.

(Sharpe, Handl. B., iv., p. 1, 1903.)

Sub-Family I. CRATEROPODINÆ.

(Sharpe, *t. c.*, p. 1.)CCXLVIII. ORTHONYX, *Temm.*(Sharpe, *t. c.*, p. 2.)

513. TEMMINCKI, *Vig.* and *Horsf.* (p. 2). S.E. Queensland, E. New South Wales, Victoria.
 [G., i., p. 607; R., p. 15; C., i., p. 252; N., i., p. 317; H., p. 27.]

514. SPALDINGI, *Ramsay* (p. 2). N.E. Queensland.
 [R., p. 15; C., i., p. 253; N., i., p. 318; H., p. 27.]

CCXLIX. CINCLOSOMA, *Vig.* and *Horsf.*(Sharpe, *t. c.*, p. 2.)

515. PUNCTATUM, *Lath.* (p. 2). S. Queensland, New South Wales, Victoria, S. Australia, Tasmania.
 [G., i., p. 433; R., p. 11; C., i., p. 254; N., i., p. 323; H., p. 27.]

516. CASTANONOTUM, *Gould* (p. 2). W. of New South Wales, W. Victoria, S. Australia, W. and N.W. Australia.
 [G., i., p. 435; R., p. 11; C., i., p. 256; N., i., p. 325; H., p. 27.]

517. CINNAMOMEUM, *Gould* (p. 2). W. of New South Wales, Central Australia, W. Australia.
 [G., i., p. 437; R., p. 11; C., i., p. 256; N., i., p. 327; H., p. 27.]

518. CASTANOTHORAX, *Gould* (p. 2). S. Queensland, Central Australia.
 [G., i., p. 438; R., p. 11; C., i., p. 257; N., i., p. 330; H., p. 27.]

519. MARGINATUM, *Sharpe* (p. 2). N.W. Australia.
 [R., p. 11; C., i., p. 258; N., i., p. 330; H., p. 28.]

CCL. PYCNOPTILUS, *Gould*.(Sharpe, *t. c.*, p. 4.)

520. FLOCCOSUS, *Gould* (p. 4). New South Wales, Victoria.
 [G., i., p. 348; R., p. 8; C., i., p. 258; N., i., p. 309; H., p. 28.]

CCLI. DRYMAEDUS, *Gould.*(Sharpe, *t. c.*, p. 4.)

521. BRUNNEIPYGIUS, *Gould* (p. 4).
 [G., i., p. 290; R., p. 7; C., i., p. 261; N., i., p. 320; H., p. 28.] New South Wales, Victoria, S. Australia, W. Australia.

522. PALLIDUS, *Sharpe* (p. 4).
 [C., i., p. 262; H., p. 28.] W. Australia.

523. SUPERCILIARIS, *Gould* (p. 4).
 [G., i., p. 291; R., p. 7; C., i., p. 262; N., i., p. 322; H., p. 28.] Cape York Peninsula.

CCLII. HYLACOLA, *Gould.*(Sharpe, *t. c.*, p. 4.)

524. PYRRHOPYGIA, *Vig. and Horsf.* (p. 4).
 [G., i., p. 346; R., p. 8; C., i., p. 263; N., i., p. 263; H., p. 28.] New South Wales, Victoria, S. Australia.

525. CAUTA, *Gould* (p. 4).
 [G., i., p. 347; R., p. 8; C., i., p. 264; N., i., p. 265; H., p. 28.] Victoria, S. Australia, W. Australia.

CCLIII. PSOPHODES, *Vig. and Horsf.*(Sharpe, *t. c.*, p. 5.)

526. CREPITANS, *Lath.* (p. 5).
 [G., i., p. 312; R., p. 7; C., i., p. 265; N., i., p. 336; H., p. 29.] Victoria, New South Wales, S. Queensland.

527. LATERALIS, *North.*
 [Rec. Austr. Mus., iii., p. 13 (1897); N., i., p. 339; H., p. 29.] N.E. Queensland.

528. NIGRIGULARIS, *Gould* (p. 5).
 [G., i., p. 314; R., p. 8; C., i., p. 268; N., i., p. 340; H., p. 29.] W. Australia.

CCLIV. POMATORHINUS, *Horsf.*(Sharpe, *t. c.*, p. 13.)

529. FRIVOLUS, *Lath.*
 [*temporalis*, *Vig. and Horsf.* (p. 14). *Cf. Sharpe, Hist. Coll. Brit. Mus.*, p. 137 (1906); G., i., p. 479; R., p. 12; C., i., p. 270; N., i., p. 358; H., p. 29.] Queensland, New South Wales, Victoria, S. Australia.

530. *SUPERCILIOSUS*, *Vig.* and *Horsf.* Australia generally.
(p. 14).
[G., i., p. 482; R., p. 12; C.,
i., p. 272; N., i., p. 362; H.,
p. 29.]

531. *RUFICEPS*, *Hartert* (p. 14). New South Wales,
[G., i., p. 484; R., p. 12; C., Victoria, S. Australia,
i., p. 273; N., i., p. 364; H.,
p. 29.]

532. *RUBECULUS*, *Gould* (p. 14). N.W. Australia, Nor-
[G., i., p. 481; R., p. 12; C., thern Territory,
i., p. 274; N., i., p. 361; H., Central Australia.
p. 29.]

CCLV. *CALAMANTHUS*, *Gould*.
(Sharpe, *t. c.*, p. 25.)

533. *FULIGINOSUS*, *Vig.* and *Horsf.* (p. Tasmania.
25).
[*Cf.* North, Nests and Eggs
Austr. Bds., i., p. 354; G.,
i., p. 388; R., p. 9; C., i.,
p. 278; N., i., p. 353; H., p.
29.]

534. *ALBILORIS*, *North*. Victoria.*
[*Vict. Nat.*, xix., p. 192 (1902);
Campbell, *Emu*, iv., p. 122
(1905); N., i., p. 355.]

535. *MONTANELLUS*, *Milligan*. W. Australia (Stirling
Range).
[*Emu*, ii., p. 200; iii., p. 13,
pl. iii. (1903); H., p. 112.]

536. *CAMPESTRIS*, *Gould* (p. 25). N.W. Australia, S.
[*rubiginosus*, Campbell, *Vict.*
Nat. xvi., p. 3 (1899); G., i.,
p. 389; R., p. 9; C., i., p.
279; N., i., p. 356; H., p.
30.]

537. *ISABELLINUS*, *North* (p. 25). Central Australia.
[Rep. Horn Scient. Exp., vol.
ii., p. 85 (1896); C., i., p.
280; N., i., p. 357; H., p.
30.]

* If *C. albiloris* be the mainland form of *C. fuliginosus*, New South Wales should be included in the habitat of the former, and probably South Australia.—A.J.C.

CCLVI. CINCLORHAMPHUS, *Gould*.(Sharpe, *t. c.*, p. 26).

538. CRURALIS, *Vig. and Horsf.* (p. 26). N.W. Australia, W. Australia, Northern Territory, Queensland, New South Wales, Victoria, S. Australia.
 [G., i., pp. 394, 395; R., p. 10; C., i., p. 275; N., i., p. 331; H., p. 29.]

539. RUFESCENS, *Vig. and Horsf.* (p. 26). Northern Territory, Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. and N.W. Australia.
 [G., i., p. 397; R., p. 10; C., i., p. 276; N., i., p. 334; H., p. 29.]

Family V. TURDIDÆ.

(Sharpe, *t. c.*, p. 111.)

Sub-Family I. TURDINÆ.

(Sharpe, *t. c.*, p. 115.)CCLVII. MERULA, *Leach*.(Sharpe, *t. c.*, p. 117.)

540. VINOTINCTA, *Gould* (p. 126). Lord Howe Is.
 [R., p. 37.]

541. FULIGINOSA, *Lath.* Norfolk Is.
 [poliocephala, *Lath.* (p. 119).
 Cf. Sharpe, *Hist. Coll. Brit. Mus.*, p. 136 (1906).]

CCLVIII. OREOCICHLA, *Gould*.(Sharpe, *t. c.*, p. 136.)

542. CUNEATA, *De Vis* (p. 137). Queensland (Herberton Range).
 [Pr. Roy. Soc. Queensl., vi., p. 242 (1889); C., i., p. 191; H., p. 21.]

543. HEINEI, *Cab.* (p. 137). E. Queensland, N.E. New South Wales.
 [R., p. 11; C., i., p. 190; N., i., p. 237; H., p. 21.]

544. LUNULATA, *Lath.* (p. 137). New South Wales, Victoria, S. Australia.
 [G., i., p. 439; R., p. 11; C., i., p. 184; N., i., p. 234; H., p. 21.]

545. MACRORHYNCHA, *Gould* (p. 137). Tasmania, Is. of Bass Strait.
 [G. i., p. 439, pt.; R., p. 11; C., i., p. 188; N., i., p. 234; H., p. 21.]

Sub-Family II. EPHTHIANURINÆ.

(Sharpe, *t. c.*, p. 148.)

CCLIX. EPHTHIANURA, *Gould*.

(Sharpe, *t. c.*, p. 148).

546. ALBIFRONS, *Jard. and Selby* (p. 148).
[G., i., p. 377; R., p. 9; C., i., p. 282; N., i., p. 343; H., p. 30.]

547. TRICOLOR, *Gould* (p. 148).

[G., i., p. 380; R., p. 9; C., i., p. 284; N., i., p. 347; H., p. 30.]

S. Queensland, New South Wales, Victoria, S. Australia, W. and N.W. Australia, Tasmania, Is. of Bass Strait.

Australia generally, except Northern Territory.

548. AURIFRONS, *Gould* (p. 148).

[G., i., p. 380; R., p. 9; C., i., p. 285; N., i., p. 349; H., p. 30.]

Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. and N.W. Australia.

549. CROCEA, *Casteln. and Ramsay* (p. 148).

[R., p. 9; C., i., p. 286; N., i., p. 352; H., p. 30.]

N. Queensland, N.W. Australia.

Family VI. SYLVIDÆ.

(Sharpe, *t. c.*, p. 185.)

CCLX. ACROCEPHALUS, *Naum.*

(Sharpe, *t. c.*, p. 187.)

550. GOULDI, *Dubois* (p. 188).
[*longirostris*, *Gould*, *nece Gm.*;
G., i., p. 403; R., p. 10; C., i., p. 183; N., i., p. 241; H., p. 20.]

W. and N.W. Australia.

551. AUSTRALIS, *Gould* (p. 188).

[G., i., p. 402; R., p. 10; C., i., p. 181; N., i., p. 238; H., p. 20.]

Queensland, New South Wales, Victoria, S. Australia, Tasmania.

CCLXI. CISTICOLA, *Kaup.*

(Sharpe, *t. c.*, p. 194.)

552. EXILIS, *Vig. and Horsf.* (p. 198).
[G., i., pp. 349, 350, 351; R., pp. 8, 9; C., i., p. 227; N., i., p. 258; H., p. 24.]

Australia generally (New Guinea, Molucca Is., Indo-Malayan Is., Malay Peninsula, Formosa).

CCLXII. MEGALURUS, *Horsf.*(Sharpe, *t. c.*, p. 202.)

553. GRAMINEUS, *Gould* (p. 202). New South Wales,
 [G., i., p. 400; R., p. 10; C., Victoria, Tasmania,
 i., p. 224; N., i., p. 256; H., S. Australia.
 p. 24.]

554. STRIATUS, *Milligan*. W. Australia (Lake
 [Emu, ii., p. 201 (1903); H., Yanchep].
 p. 111.]

555. GALACTOTES, *Temm.* (p. 202). Northern Territory,
 [G., i., p. 399; R., p. 10; C., Queensland, New
 i., p. 225; N., i., p. 254; H., South Wales.
 p. 24.]

CCLXIII. EREMIORNIS, *North* (Vict.*Nat.*, xvii., p. 78, 1900).(Sharpe, *t. c.*, p. 203.)

556. CARTERI, *North* (p. 203). N.W. Australia.
 [C., ii., p. 1,083; N., i., p. 252;
 H., p. 111.]

CCLXIV. ORIGMA, *Gould*.(Sharpe, *t. c.*, p. 207.)

557. RUBRICATA, *Lath.* (p. 207). New South Wales.
 [G., i., p. 385; R., p. 9; C., i.,
 p. 226; N., i., p. 311; H., p.
 24.]

CCLXV. CHTHONICOLA, *Gould*.(Sharpe, *t. c.*, p. 219.)

558. SAGITTATA, *Lath.* (p. 219). Queensland, New
 [G., i., p. 390; R., p. 9; C., i.,
 p. 281; N., i., p. 261; H., p.
 24.] South Wales, Victoria, S. Australia.

CCLXVI. ACANTHIZA, *Vig. and Horsf.*(Sharpe, *t. c.*, p. 219.)

559. NANA, *Vig. and Horsf.* (p. 219). New South Wales,
 [G., i., p. 371; R., p. 9; C., i.,
 p. 228; N., i., p. 266; H., p.
 24.] Victoria, S. Australia.

560. INORNATA, *Gould* (p. 219). S. Australia, W. Aus-
 [G., i., p. 370; R., p. 9; C., i.,
 p. 229; N., i., p. 279; H., p.
 25.] tralia.

561. PUSILLA, *White* (p. 219). S. Queensland, New
 [macularia, *Quoy and Gaim.*, South Wales, Vic-
 teste North; G., i., p. 364;
 R., p. 9; C., i., p. 230; N.,
 i., p. 268; H., p. 25.] toria, S. Australia.

562. SQUAMATA, *De Vis* (p. 219).
[C., i., p. 237; H., p. 25.] Queensland (Herberton Range).

563. ZIETZI, *North*.
[Nests and Eggs Austr. Bds., i., p. 271; *halmatirina*, Campbell, *Emu*, v., p. 141 (1906); H., p. 111.] Kangaroo Is.

564. MAGNIROSTRIS, *Campbell*.
[*Emu*, ii., p. 202 (1903); H., p. 112.] King Is., Bass Strait.

565. DIEMENENSIS, *Gould* (p. 219).
[G., i., p. 365; R., p. 9; C., i., p. 232; N., i., p. 272; H., p. 25.] Tasmania.

566. APICALIS, *Gould* (p. 219).
[G., i., p. 368; R., p. 9; C., i., p. 233; N., i., p. 271; H., p. 25.] W. Australia.

567. ROBUSTIROSTRIS, *Milligan*.
[*Emu*, iii., p. 71 (1903); H., p. 112.] W. Australia.

568. PYRRHOPYGIA, *Gould* (p. 220).
[G., i., p. 369; R., p. 9; C., i., p. 234; N., i., p. 275; H., p. 25.] New South Wales, Victoria, S. Australia.

569. LINEATA, *Gould* (p. 220).
[G., i., p. 372; R., p. 9; C., i., p. 234; N., i., p. 276; H., p. 25.] S. Australia, Victoria, New South Wales, Queensland.

570. MASTERSI, *North*.
[*Agric. Gazette*, New South Wales, xii., p. 1,425 (1901); N. i., p. 278.] W. Australia.

571. MODESTA, *De Vis*.
[Ann. Queensl. Mus., No. 6., p. 43 (1905).] Interior of Queensland (Charleville).

572. KATHERINA, *De Vis*, *t. c.*.
Queensland (Bellingen-Ker Range).

573. UROPYGIALIS, *Gould* (p. 220).
[G., i., p. 367; R., p. 9; C., i., p. 236; N., i., p. 279; H., p. 25.] Queensland, New South Wales, Victoria, S. Australia, W. and N.W. Australia.

574. CHRYSORRHOA, *Quoy and Gaim.*
(p. 220).
[G., i., p. 374; R., p. 9; C., i., p. 238; N., i., p. 282; H., p. 25.] Queensland, New South Wales, Victoria, Tasmania, S. Australia, W. Australia, Central Australia.

575. REGULOIDES, *Vig. and Horsf.* (p. 220). Queensland, New South Wales, Victoria, S. Australia.
[G., i., p. 376; R., p. 9; C., i., p. 239; N., i., p. 285; H., p. 25.]

576. PALLIDA, *Milligan.* W. Australia (Murchison Range).
[*Emu*, iii., p. 111 (1903); H., p. 112.]

577. EWINGI, *Gould.* Tasmania.
[B. Austr., iii., p. 55. *Cf.* Legge, *Emu*, iii., p. 179 (1904); N., i., p. 273.]

578. TENUIROSTRIS, *Zietz* (p. 220). S. Australia, W. Australia.
[N., i., p. 281; H., p. 112.]

579. RUFIFRONS, *Campbell.* King Is., Bass Strait.
[*Emu*, ii., p. 203 (1903).]

CCLXVII. SERICORNIS, *Gould.*
(Sharpe, *t. c.*, p. 220.)

580. BRUNNEA, *Gould* (p. 220). New South Wales, Victoria, S. Australia, W. Australia, Central Australia.
[G., i., p. 384; R., p. 9; C., i., p. 242; N., i., p. 307; H., p. 26.]

581. BARBARA, *Lath.* E. Queensland, New South Wales.
[*Cf.* Sharpe, *Hist. Coll. Brit. Mus.*, p. 140 (1906); *citreogularis*, *Gould* (p. 220); G., i., p. 354; R., p. 9; C., i., p. 243; N., i., p. 295; H., p. 26.]

582. FRONTALIS, *Vig. and Horsf.* (p. 220). New South Wales, Victoria, S. Australia.
[*loseulans*, *Gould*, p. 221. *Cf.* North, *Nests and Eggs Austr. Bds.*, i., p. 299; G., i., pp. 358, 359; R., p. 9; C., i., pp. 245, 250; N., i., p. 299; H., p. 26.]

583. MINIMUS, *Gould.* N. Australia, N. Queensland.
[R., p. 9; H., p. 26.]

584. MAGNIROSTRIS, *Gould* (p. 221). Queensland, New South Wales, E. Victoria.
[G., i., p. 362; R., p. 9; C., i., p. 247; N., i., p. 302; H., p. 26.]

585. LÆVIGASTER, *Gould* (p. 221). Queensland.
[G., i., p. 360; R., p. 9; C., i., p. 249; N., i., p. 300; H., p. 26.]

586. MACULATA, *Gould* (p. 221). Kangaroo Is., S. Australia.
 [G., i., p. 361; R., p. 9; C., i., p. 249; N., i., p. 304; H., p. 26.]

587. GULARIS, *Legge*. Kent Is. (Bass Strait).
 [Vict. Nat., xiii., p. 84 (1896).]

588. TYRANNULA, *De Vis*. Interior of Queensland (Charleville).
 [Ann. Queensl. Mus., No. 6, p. 42 (1905).]

589. HUMILIS, *Gould* (p. 222). Tasmania, Is. of Bass Strait.
 [G. i., p. 356; R., p. 9; C., i., p. 251; N., i., p. 305; H., p. 26.]

CCLXVIII. OREOSCOPUS, *North*.

[Agric. Gaz., N.S.W., xvi., p. 247 (1905).]

590. GUTTURALIS, *De Vis*. N. Queensland (Herberton Range).
 [P. Roy. Soc. Queensl., vi., p. 244 (1889); C., i., p. 252; H., p. 27.]

CCLXIX. ACANTHORNIS, *Legge*.

(Sharpe, t. c., p. 222.)

591. MAGNA, *Gould* (p. 222). Tasmania.
 [G., i., p. 373; R., p. 9; C., i., p. 241; N., i., p. 290; H., p. 26.]

CCLXX. MALURUS, *Vieill.*

(Sharpe, t. c., p. 243.)

592. CYANEUS, *Ellis* (p. 243, pt.) Tasmania, Furneaux Is.
 [longicauda, *Gould*, *nce* Temm., Sharpe, Cat. B., iv., p. 287, *gouldi*, Sharpe, t. c., p. 287. Cf. North, *Ibis* (1904), p. 672; G., i., p. 320; R., p. 8; C., i., p. 169; N., i., p. 204; H., p. 16.]

593. CYANOCHLAMYS, *Sharpe* (p. 243). Queensland, New South Wales, Victoria, S. Australia, Kangaroo Is.
 [superbus, Shaw (1790, *nce* 1789); australis, North, *Ibis* (1904), p. 672; G., i., p. 317; R., p. 8; C., i., pp. 163, 168; N., i., pp. 206, 210; H., pp. 16, 17.]

594. ELIZABETHÆ, *Campbell* (p. 243). King Is. (Bass Strait).
 [C., i., pp. 169, 1,077; H., p. 110.]

595. *MELANONOTUS*, *Gould* (p. 243). S.W. Queensland, W. New South Wales, Central S. Australia, Victoria.
 [G., i., p. 322; R., p. 8; C., i., p. 169; N., i., p. 210; H., p. 162.]

596. *WHITEI*, *Campbell*. Central Australia.
 [Emu, i., p. 65 (1902); H., p. 110.]

597. *CALLAINUS*, *Gould* (p. 243). W. of New South Wales, Queensland, S. Australia, Central Australia.
 [R., p. 8; C., i., p. 170; N., i., p. 211; H., p. 16.]

598. *SPLENDENS*, *Quoy and Gaim.* (p. 243). W. Australia.
 [G., i., p. 323; R., p. 8; C., i., p. 172; N., i., p. 213; H., p. 16.]

599. *LEUCOPTERUS*, *Quoy and Gaim.* (p. 244). Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. Australia.
 [Cf. Milligan, Emu, iv., p. 52 (1904); G., i., p. 330; R., p. 8; C., i., p. 173; N., i., p. 214; H., p. 16.]

600. *LEUCONOTUS*, *Gould* (p. 244). W. Australia, S. Australia, W. of New South Wales.
 [G., i., p. 322; R., p. 8; C., i., p. 174; N., i., p. 217; H., p. 16.]

601. *ELEGANS*, *Gould* (p. 244). W. Australia.
 [G., i., p. 324; R., p. 8; C., i., p. 175; N., i., p. 227; H., p. 16.]

602. *LAMBERTI*, *Vig. and Horsf.* (p. 244). Queensland, New South Wales.
 [G., i., p. 327; R., p. 8; C., i., p. 176; N., i., p. 218; H., p. 16.]

603. *ASSIMILIS*, *North* (p. 244). Queensland, New South Wales, Victoria, S. Australia, W. and N.W. Australia, Northern Territory.
 [pulcherrimus, Sharpe, nec Gould, Cat. B., iv., p. 244; N., i., p. 222; H., p. 111.]

604. *AMABILIS*, *Gould* (p. 244). N. Queensland, Is. of Torres Strait, N.W. Australia (Cambridge Gulf).
 [Cf. De Vis, P. Roy. Soc. Queensl., vi., p. 236 (1890); G., i., p. 328; R., p. 8; C., i., p. 176; N., i., p. 225; H., p. 16.]

605. PULCHERRIMUS, *Gould* (p. 244). W. Australia, N. [Cf. Hartert, Nov. Zool., xii., p. 223 (1905); G., i., p. 326; R., p. 8; C., i., p. 177; N., i., p. 228; H., p. 16.] Australia (Alligator River).

606. CORONATUS, *Gould* (p. 244). N.W. Australia. [G., i., p. 329; R., p. 8; C., i., p. 178; N., i., p. 233; H., p. 17.]

607. MELANOCEPHALUS, *Vig. and Horsf.* Queensland, N.E. New South Wales. (p. 244). [G., i., p. 333; R., p. 8; C., i., p. 180; N., i., p. 229; H., p. 17.]

608. CRUENTATUS, *Gould* (p. 244). N.W. Australia, Northern Territory, Queensland. [dorsalis, Lewin; boweri, Ramsay, P. Linn. Soc. N.S.W., i., pp. 1,089-1,100. Cf. North, Nests and Eggs Austr. Bds., i., p. 233; G., i., p. 334; R., p. 8; C., i., p. 179; N., i., p. 233; H., p. 17.]

609. EDWARDI, *Campbell* (p. 245). W. Australia (Barrow Is.). [Cf. Campbell, *Emu*, i., pp. 26, 65 (1901); H., p. 115.]

CCLXXI. STIPITURUS, *Less.*
(Sharpe, *t. c.*, p. 245.)

610. MALACHURUS, *Shaw* (p. 245). S.E. Queensland, New South Wales, Victoria, Tasmania, S. Australia, W. Australia. [G., i., p. 339; R., p. 8; C., i., p. 214; N., i., p. 242; H., p. 23.]

611. RUFICEPS, *Campbell* (p. 245). N.W. Australia. [C., i., p. 217; H., p. 23.] -

CCLXXII. SPHENURA, *Licht.*
(Sharpe, *t. c.*, p. 245.)

612. BRACHYPTERA, *Lath.* (p. 245). New South Wales.* [G., p. 342; R., p. 8; C., i., p. 218; N., i., p. 244; H., p. 23.]

613. LONGIROSTRIS, *Gould* (p. 246). W. Australia. [G., i., p. 343; R., p. 8; C., i., p. 219; N., i., p. 245; H., p. 23.]

* In the collection of the National Museum, Melbourne, there are specimens of this bird from two localities in Victoria.—A.J.C.

614. BROADBENTI, *McCoy* (p. 246). Victoria, S. Australia.
[R., p. 8; C., i., p. 219; N., i., p. 246; H., p. 23.]

615. LITTORALIS, *Milligan*. W. Australia (Ellens-
brook).
[*Emu*, i., p. 67 (1902); H., p. 111.]

CCLXXIII. AMYTORNIS, *Stejneger*.
(Sharpe, *t. c.*, p. 246.)

616. TEXTILIS, *Quoy and Gaim* (p. 246). W. Australia, Central
Australia.
[N., i., p. 248.]

617. MODESTUS, *North*. Central Australia, S.
[*Vict. Nat.*, xix., p. 103, 359 Australia, New
(1902), *textilis*, *auct.*; G., i., p. 335; R., p. 8; C., i., p. 221; N., i., p. 249; H., p. 111.]

618. MACRURUS, *Gould* (p. 246). W. Australia.
[G., i., p. 338; R., p. 8; C., i., p. 223; H., p. 23.]

619. MEGALURUS, *Sharpe* (p. 246). W. Australia.
[*vice gigantura*, *Milligan*; H., p. 111.]

620. STRIATUS, *Gould* (p. 246). New South Wales,
[G., i., p. 337; R., p. 8; C., i., p. 222; N., i., p. 250; H., p. 23.] Victoria, S. Australia, Central Australia, N.W. Australia.

621. HOUSEI, *Milligan* (p. 246). N.W. Australia.*
[H., p. 111.]

622. WOODWARDI, *Hartert*. N. Australia (Arnhem Land).
[*Bull. B.O.C.*, xvi., p. 30 (1905).]

623. GOYDERI, *Gould* (p. 246). S. Australia.
[R., p. 8; C., i., p. 223; H., p. 23.]

Family VII. ARTAMIDÆ.

(Sharpe, *t. c.*, p. 260.)CCLXXIV. ARTAMUS, *Vicill*.(Sharpe, *t. c.*, p. 260.)

624. LEUCOGASTER, *Valenc.* (p. 260). Australia generally
[*parvirostris*, *Hartert*. Cf. (Papuan Is., Malay
Hartert, Nov. Zool., xii., p. 240; G., i., p. 154; R., p. 3; C., i., pp. 461, 1,083; H., p. 48, 113.) Archipelago, Andaman Is.)

* *Vide Emu*, ii., p. 114.—A.J.C.

625. **SUPERCILIOSUS**, *Gould* (p. 261). E. and S. Australia.
[G., i., p. 152; R., p. 3; C., i.,
p. 463; H., p. 48.]

626. **PHÆUS**, *Ingram*. Northern Territory.
[Bull. B.O.C., xvi., p. 115
(1906).]

627. **GRACILIS**, *Ingram*. Northern Territory.
[T. c., p. 115 (1906).]

628. **PERSONATUS**, *Gould* (p. 261). S. Queensland, New
South Wales, Victoria, S. Australia,
W. and N.W. Australia.
[G., i., p. 150; R., p. 3; C., i.,
p. 466; H., p. 48.]

629. **CINEREUS**, *Vieill.* (p. 261). W. Australia.
[G., i., p. 147; R., p. 3; C.,
i., p. 469; H., p. 48.]

630. **HYPOLEUCUS**, *Sharpe* (p. 261). Northern Territory,
Queensland.
[G., i., p. 149; R., p. 3; C., i.,
p. 470; H., p. 48.]

631. **MELANOPS**, *Gould* (p. 262). Central Australia.
[G., i., p. 149; R., p. 3; C., i.,
p. 471; H., p. 48.]

632. **FLORENCIÆ**, *Ingram*. Northern Territory.
[Bull. B.O.C., xvi., p. 115
(1906).]

633. **VENUSTUS**, *Sharpe* (p. 262). N.W. Australia.
[H., p. 48.]

634. **TENEBROSUS**, *Lath.* Australia generally,
[*sordidus*, *Lath.*, p. 262; G., Tasmania.
i., p. 143; R., p. 3; C., i., p.
471; H., p. 48.]

635. **MINOR**, *Vieill.* (p. 262). Australia generally ex-
cept Victoria.
[G., i., p. 146; R., p. 3; C., i.,
p. 474; H., p. 48.]

Family VIII. PRIONOPIDÆ.
(*Sharpe*, *t. c.*, p. 264.)

CCLXXV. COLLYRIOCICHLA, *Vig.*
and Horsf.
(*Sharpe*, *t. c.*, p. 269.)

636. **HARMONICA**, *Lath.* (p. 269). Queensland, New
South Wales, Victoria, S. Australia.
[G., i., p. 220; R., p. 5; C., i.,
p. 88; N., i., p. 92; H., p.
10.]

637. *RECTIROSTRIS*, *Jard.* and *Selby* Tasmania, Is. of Bass (p. 269).
 [G., i., p. 224; R., p. 5; C., i., p. 90; N., i., p. 94; H., p. 11.]

638. *BRUNNEA*, *Gould* (p. 269). N.W. Australia, Northern Territory.
 [Cf. *Hartert*, *Nov. Zool.*, xii., p. 227; G., i., p. 223; R., p. 5; C., i., p. 91; N., i., p. 95; H., p. 11.]

[*pallidirostris*, *Sharpe*, p. 269 = female of *C. brunnea*, *teste* *Hartert*, *Nov. Zool.*, xii., p. 227 (1905); R., p. 5; H., p. 11.]

639. *SUPERCILIOSA*, *Masters*. Cape York Peninsula.
 [Cf. *North*, *Nests and Eggs Austr. Bds.*, i., p. 96 (1902); R., p. 5.]

640. *RUFIVENTRIS*, *Gould* (p. 269). W. and N.W. Australia, Central Australia, S. Australia.
 [G., i., p. 222; R., p. 5; C., i., p. 91; N., i., p. 98; H., p. 11.]

641. *WOODWARDI*, *Hartert*. N. Australia (Arnhem Land).
 [Nov. *Zool.* xii., p. 228.]

642. *CERVINIVENTRIS*, *North* (p. 270). Interior of E. Queensland, N.E. New South Wales.
 [N., i., p. 100, pt.; H., p. 11.]

CCLXXVI. *PINAROLESTES*, *Sharpe*.
 (*Sharpe*, *t. c.*, p. 270.)

643. *PARVULUS*, *Gould* (p. 270). N.W. Australia, Northern Territory.
 [G., i., p. 225; R., p. 5; C., i., p. 92; N., i., p. 97; H., p. 11.]

644. *RUFIVENTRIS*, *Sharpe* (p. 270). Queensland, N.E. New South Wales.
 [*rufigaster*, *Gould*; G., i., p. 226; R., p. 5; C., i., p. 93; N., i., p. 100; H., p. 11.]

645. *BOWERI*, *Ramsay* (p. 270). Queensland.
 [*sibila*, *De Vis*, *Sharpe*, *t. c.*, p. 269; R., p. 5; C., i., p. 93; H., p. 11.]

CCLXXVII. *GRALLINA*, *Vieill.*
 (*Sharpe*, *t. c.*, p. 261.)

646. *PICATA*, *Lath.* (p. 264). Australia generally, Tasmania.
 [G., i., p. 188; R., p. 4; C., i., p. 87; N., i., p. 88; H., p. 10.]

Family IX. LANIIDÆ.

(Sharpe, t. c., p. 276.)

Sub-Family I. GYMNORHINE.

(Sharpe, t. c., p. 276.)

CCLXVIII. GYMNORHINA, *Gray*.

(Sharpe, t. c., p. 276.)

647. TIBICEN, *Lath.* (p. 276). Queensland, New
 [G., i., p. 175; R., p. 4; C., i., South Wales, Vic-
 p. 290; N., ii., p. 1; H., p. toria, S. Australia.
 31.]

648. LONGIROSTRIS, *Milligan*. N.W. Australia.
 [Emu, ii., p. 96 (1903); longi-
 rostris, Hartert, Nov. Zool.,
 xii., p. 230 (1905); N., ii., p.
 2; H., p. 112.]

649. DORSALIS, *Campbell* (p. 276). W. Australia.
 [Cf. Degen, Emu, iii., p. 201;
 Milligan, t. c., pp. 99, 177;
 C., i., p. 296, N., ii., p. 2;
 H., p. 31.]

650. LEUCONOTA, *Gray* (p. 276). New South Wales,
 [G., i., p. 176; R., p. 4; C., i., Victoria, S. Austra-
 p. 292; N., ii., p. 5; H., p. lia, Central Austra-
 31.] lia.

651. HYPERLEUCA, *Gould* (p. 276). Tasmania.
 [G., i., p. 178; R., p. 4; C., i.,
 p. 295; N., ii., p. 8; H., p.
 31.]

CCLXXIX. CRACTICUS, *Vicill*.

(Sharpe, t. c., p. 276).

652. SPALDINGI, *Masters*. N. Australia.
 [P., Linn. Soc., N.S.W., ii., p.
 271 (1877); tunneyi, Hartert,
 Nov. Zool., xii., p. 228
 (1905); G., i., p. 183; R., p.
 4; C., i., p. 306; N., ii., p.
 21; H., pp. 31, 32, 112.]

653. RUFESCENS, *De Vis* (p. 277). N.E. Queensland.
 [R., p. 4; C., i., p. 306; N.,
 ii., p. 18; H., p. 32.]

654. NIGRIGULARIS, *Gould* (p. 277). Queensland, New
 [Cf. Hartert, Nov. Zool., xii.,
 p. 229; C., i., p. 180; C., i.,
 p. 301; N., ii., p. 14; H., p.
 31.] South Wales, Vic-
 toria, S. Australia,
 Central Australia,
 W. Australia.

655. *PICATUS*, *Gould* (p. 277). Northern Territory,
 [Cf. Hartert, *t. c.*; G., i., p. N.W. Australia.
 181; R., p. 4; C., i., p. 302;
 N., ii., p. 17; H., p. 31.]

656. *LEUCOPTERUS*, *Gould* (p. 277). W. Australia.
 [G., i., p. 187; R., p. 4; C., i.,
 p. 303; N., ii., p. 12; H., p.
 31.]

657. *ARGENTEUS*, *Gould* (p. 277). N. Australia.
 [G., i., p. 182; R., p. 4; C., i.,
 p. 304; N., ii., p. 21; H., p.
 31.]

658. *DESTRUCTOR*, *Temm.* (p. 277). Queensland, New
 [G., i., p. 184; R., p. 4; C., i.,
 p. 304; N., ii., p. 9; H., p.
 32.] South Wales, Victoria, S. Australia.

659. *CINEREUS*, *Gould* (p. 277). Tasmania.
 [G., i., p. 186; R., p. 4; C., i.,
 p. 305; N., ii., p. 13; H., p.
 32.]

Sub-Family II. PACHYCEPHALINÆ.

(Sharpe, *t. c.*, p. 302.)

CCLXXX. *FALCUNCULUS*, *Vieill.*

(Sharpe, *t. c.*, p. 302.)

660. *FRONTATUS*, *Lath.* (p. 302). Queensland, New
 [G., i., p. 228; R., p. 5; C., i.,
 p. 308; N., ii., p. 36; H., p.
 32.] South Wales, Victoria, S. Australia.

661. *LEUCOGASTER*, *Gould* (p. 302). W. Australia.
 [G., i., p. 229; R., p. 5; C., i.,
 p. 309; N., ii., p. 38; H., p.
 32.]

CCLXXXI. *OREOICA*, *Gould*.

(Sharpe, *t. c.*, p. 303.)

662. *CRISTATA*, *Lewin* (p. 303). Australia generally.
 [G., i., p. 231; R., p. 5; C., i.,
 p. 310; N., ii., p. 39; H., p.
 32.]

CCLXXXII. PACHYCEPHALA, *Vig.*
and Horsf.

(Sharpe, *t. c.*, p. 304).

663. *MELANURA*, *Gould* (p. 304). N. Queensland, Is. of
 [G., i., p. 211; R., p. 5; C., i.,
 p. 318; N., ii., p. 26; H., p.
 33.] Torres Strait, Northern Territory,
 N.W. Australia (S. New Guinea).

664. ROBUSTA, *Masters*. Cape York.
 [Proc. Linn. Soc., N.S.W., i., p. 49 (1877); N., ii., p. 27.]

665. QUEENSLANDICA, *Reichenow* (p. 304). N. Queensland.

666. PENINSULÆ, *Hartert* (p. 309). Cape York.
 [C., i., p. 327; N., ii., p. 27; H., p. 33.]

667. PECTORALIS, * *Lath.* Queensland, New South Wales, Victoria.
 [*gutturalis*, Lath (p. 306). Cf. Sharpe, Hist. Coll. Brit. Mus., p. 134 (1906); G., i., p. 207; R., p. 5; C., i., p. 319; N., ii., p. 22; H., p. 33.]

668. CONTEMPTA, *Hartert* (p. 306). Lord Howe Is.
 [*howensis*, North, Rec. Aust. Mus. v., p. 125 (1903).]

669. MERIDIONALIS, *North*. S. Australia.
 [Rec. Aust. Mus., v., p. 126 (1904); *id.* Nests and Eggs Austr. Bds., ii., p. 25.]

670. OCCIDENTALIS, *Ramsay* (p. 306). W. Australia.
 [Cf. Hartert, Bull. B.O.C., xiv., p. 10 (1904); Milligan, *Emu*, iv., p. 48; R., p. 5; C., i., p. 321; N., ii., p. 25; H., p. 33.]

671. GLAUCURA, *Gould* (p. 306). Tasmania, Is. of Bass Strait.
 [G., i., p. 209; R., p. 5; C., i., p. 322; N., ii., p. 28; H., p. 33.]

672. FALCATA, *Gould* (p. 307). N. Queensland, Northern Territory, N.W. Australia.
 [G., i., p. 213; R., p. 5; C., i., p. 323; N., ii., p. 31; H., p. 33.]

673. PALLIDA, *Ramsay* (p. 307). Gulf of Carpentaria.
 [R., p. 5; H., p. 34.]

674. RUFIVENTRIS, *Lath.* (p. 308). Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. Australia.
 [G., i., p. 212; R., p. 5; C., i., p. 324; N., ii., p. 29; H., p. 34.]

675. MESTONI, *De Vis.* N. Queensland.
 [Cf. *Ibis*, July, 1906.]

* *P. rufifularis* (Gould) is considered to be the young of this species.—A.J.C.

676. *GILBERTI*, *Gould* (p. 308).
[G., i., p. 216; R., p. 5; C., i., p. 325; N., ii., p. 32; H., p. 34.] New South Wales, Victoria, S. Australia, W. Australia.

677. *OLIVACEA*, *Vig.* and *Horsf.* (p. 309).
[G., i., p. 218; R., p. 5; C., i., p. 326; N., ii., p. 34; H., p. 34.] New South Wales, Victoria, Is. of Bass Strait, Tasmania.

678. *XANTHOPROCTA*, *Gould* (p. 309).
[R., p. 37.] Norfolk Is.

679. *SIMPLEX*, *Gould* (p. 310).
[G., i., p. 217; R., p. 5; C., i., p. 328; H., p. 34.] Port Essington.

680. *LANIOIDES*, *Gould* (p. 312).
[G., i., p. 214; R., p. 5; C., i., p. 328; H., p. 34.] N.W. Coast of Australia.

681. *FRETORUM*, *De Vis.*
[Proc. Roy. Soc., Queensl., vi., p. 237 (1889); C., i., p. 328; H., p. 34.] N. and N.W. Australia (Cambridge Gulf, Gulf of Carpentaria).

682. *SPINICAUDA*, *Jacq.* and *Pucher.* (p. 312). Is. of Torres Strait.

CCLXXXIII. *EOPSALTRIA*, *Swains.*
(Sharpe, t. c., p. 315).

683. *AUSTRALIS*, *Shaw* (p. 315).
[G., i., p. 293; R., p. 7; C., i., p. 311; N., i., p. 182; H., p. 32.] New South Wales (Clarence River and Dawson River), Victoria.

684. *CHRYSORRHOA*, *Gould* (p. 315).
[Cf. North, Nests and Eggs Austr. Bds., i., p. 185 (1903); R., p. 7; C., i., p. 313; N., i., p. 185; H., p. 32.] N. coastal districts of New South Wales to E. Queensland.

685. *GULARIS*, *Quoy* and *Gaim.* (p. 315).
[G., i., p. 294; R., p. 7; C., i., p. 315; N., i., p. 186; H., p. 33.] S. Australia, W. Australia.

686. *GEORGIANA*, *Quoy* and *Gaim.* (p. 315).
[G., i., p. 296; R., p. 7; C., i., p. 148; N., i., p. 188; H., p. 33.] W. Australia.

687. MAGNIROSTRIS, *Ramsay* (p. 315). Wide Bay district to
 [Cf. North, Nests and Eggs Rockingham Bay.
 Austr. Bds., i., p. 185, pt.
 (1903); R., p. 7; H., p. 32.]

688. INORNATA, *Ramsay* (p. 315). Rockingham Bay.
 [R., p. 7; N., i., p. 184.]

Family X. PARIDÆ.

(Sharpe, *t. c.*, p. 316.)

CCLXXXIV. APHELOCEPHALA, *Oberh.*
 (Sharpe, *t. c.*, p. 342).
 [Xerophila, *Gould* (*nec* Held.)]

689. LEUCOPSIS, *Gould* (p. 342). S. Queensland, New
 [G., i., p. 382; R., p. 9; C., i., South Wales, Victoria,
 p. 287; N., i., p. 291; H., p. 30.] S. Australia, Central Australia,
 W. Australia.

690. PECTORALIS, *Gould* (p. 342). S. Australia.
 [R., p. 9; C., i., p. 289; H., p. 30.]

691. NIGRICINCTA, *North* (p. 340). Central Australia.
 [Ibis, p. 340 (1895). Cf. Slater, Bull. B.O.C., xiv., p. 9; C., i., p. 289; N., i., p. 294; H., p. 30.]

692. CASTANEVENTRIS, *Milligan*. W. Australia (Mur-
 [Emu, iii., p. 70 (1903); Campbell, *t. c.*, p. 120; *id.*, Emu, chison).
 iv., pl. xiii., fig. i. (1905); H., p. 112.]

CCLXXXV. SPHENOSTOMA, *Gould*.
 (Sharpe, *t. c.*, p. 342).

693. CRISTATUM, *Gould* (p. 342). Queensland, New
 [G., i., p. 316; R., p. 5; C., i., South Wales, Central Australia, W. and N.W. Australia.*
 p. 269; N., i., p. 341; H., p. 31.]

Family XI. SITTIDÆ.

(Sharpe, *t. c.*, p. 346.)

CCLXXXVI. NEOSITTA, *Hellmayr*.
 (Sharpe, *t. c.*, p. 351.)

694. CHRYSOPTERA, *Lath.* (p. 351). Queensland, New
 [G., i., p. 609; R., p. 15; C., i., South Wales, Victoria, S. Australia.
 p. 337; N., ii., p. 52; H., p. 36.]

* In the collection of the National Museum, Melbourne, there are specimens of this species obtained at the junction of the Darling and Murray Rivers, therefore probably N.W. Victoria and S. Australia may be included in its habitat.—A.J.C.

695. LEUCOCEPHALA, *Gould* (p. 352). Queensland, New South Wales.
[G., i., p. 610; R., p. 15; C., i., p. 339; N., ii., p. 57; H., p. 36.]

696. ALBATA, *Ramsay* (p. 352). N.E. Australia.
[R., p. 15; C., i., p. 340; H., p. 36.]

697. PILEATA, *Gould* (p. 352). S.W. New South Wales, Victoria, Central Australia, S. Australia, W. and N.W. Australia.
[G., i., p. 612; R., p. 15; C., i., p. 340; N., ii., p. 55; H., p. 36.]

698. TENUIROSTRIS, *Gould* (p. 352). Int. of S. Australia, W. Australia (Murchison).
[G., i., p. 610; R., p. 15; C., i., p. 342; N., ii., p. 55; H., p. 36.]

699. LEUCOPTERA, *Gould* (p. 352). N. Australia.
[G., i., p. 611; R., p. 15; C., i., p. 343; H., p. 36.]

700. STRIATA, *Gould* (p. 352). N. and N.E. Australia.
[R., p. 15; C., i., p. 343; H., p. 36.]

Family XII. CERTHIIDÆ.

(Sharpe, *t. c.*, p. 353.)CCLXXXVII. CLIMACTERIS, *Temm.*(Sharpe, *t. c.*, p. 357.)

701. MELANURA, *Gould* (p. 357). N.W. Australia, Northern Territory, Queensland.
[G., i., p. 604; R., p. 15; C., i., p. 329; N., ii., p. 46; H., p. 35.]

702. MELANONOTA, *Gould* (p. 357). Northern Territory, N. Queensland.
[G., i., p. 603; R., p. 15; C., i., p. 330; H., p. 35.]

703. RUFA, *Gould* (p. 357). S. Australia, W. Australia.
[G., i., p. 600; R., p. 14; C., i., p. 331; N., ii., p. 48; H., p. 35.]

704. PICUMNA, *Temm.* (p. 357). Queensland, New South Wales, Victoria, S. Australia.
[G., i., p. 598; R., p. 14; C., i., p. 334; N., ii., p. 42; H., p. 35.]

705. SCANDENS, Temm. (p. 357). S. Queensland, New South Wales, Victoria, S. Australia, Tasmania (?).
 [pyrrhonota, Gould (p. 357).
Cf. Vincent Legge, *Emu*, iii., p. 181 (1904); G., i., p. 605; R., p. 15; C., i., p. 332; N., ii., p. 44; H., p. 35.]

706. ERYTHROPS, Gould (p. 357). New South Wales, Victoria, S. Queensland.
 [G., i., p. 602; R., p. 15; C., i., p. 335; N., ii., p. 49; H., p. 35.]

707. SUPERCILIOSA, North (p. 357). S. Queensland, New South Wales, Victoria, S. Australia, Central Australia, W. Australia.
 [C., i., p. 336; N., ii., p. 51; H., p. 35.]

708. MINOR,* Ramsay.
 [weiskei, Reichenow (p. 357).
Cf. North, *Nests and Eggs Austr. Bds.*, ii., p. 45. *Cf.* Selater, *Bull. B.O.C.*, xv., p. 9 (1904); Hartert, *t. c.*, p. 10.]

Family XIII. ZOSTEROPIDÆ.

(Sharpe, *Handl. B.*, v., p. 1.)

CCLXXXVIII. ZOSTEROPS, Vig. and Horsf.

(Sharpe, *t. c.*, p. 1.)

709. GOULDI, Bp. (p. 2). W. Australia.
 [G., i., p. 588; R., p. 14; C., i., p. 350; N., ii., p. 212; H., p. 38.]

710. ALBIVENTRIS, Reichenb. (p. 6). N. Queensland, Is. of Torres Strait, Central Australia.
 [R., p. 14; C., i., p. 351; N., ii., p. 213; H., p. 38.]

711. LUTEA, Gould (p. 9). N. and N.W. Australia.
 [G., i., p. 590; R., p. 14; C., i., p. 351; H., p. 38.]

712. CÆRULESCENS, Lath. (p. 16). Queensland, New South Wales, Victoria, S. Australia, Tasmania (New Zealand, Chatham Is., &c.).
 [lateralis, Lath.; G., i., p. 587; R., p. 14; C., i., p. 347; N., ii., p. 209; H., p. 38.]

* Mr. North ("Nests and Eggs of Birds found Breeding in Australia and Tasmania," 2nd edition, vol. ii., p. 45) says that Mr. Ramsay gave the name of *Climacteris leucophœa minor* to this species in his "Tabular List," 1888. In the copy of this work in the library of the Natural History Museum in London, and in my own copy, I do not find this reference.—G. M. M.

713. BOWLE, *Horne*. Victoria (Morang).
 [Emu, vii., p. 35.]

714. HALMATURINA, *Campbell*. S. Australia, Kangaroo Is.
 [Emu, v., p. 143; H., p. 113.]

715. TEPIROPLEURA, *Gould* (p. 17). Lord Howe Is.
 [G., ii., p. 538; R., p. 37.]

716. VEGETA, *Hartert* (p. 17). Cape York.
 [N., ii., p. 212; H., p. 113.]

717. RAMSAYI, *Masters* (p. 17). N.E. Australia (Palm Is., Halifax Bay).
 [R., p. 14; C., i., p. 349; H., p. 38.]

718. STRENUA, *Gould* (p. 17). Lord Howe Is.
 [G., ii., p. 537; R., p. 37.]

719. ALBIGULARIS, *Gould* (p. 17). Norfolk Is.
 [G., ii., p. 535; R., p. 37.]

720. TENUIROSTRIS, *Gould* (p. 17). Norfolk Is.
 [G., ii., p. 536; R., p. 37.]

721. GULLIVERI, *Casteln. and Ramsay* (p. 18). Northern Territory, N. Queensland.
 [R., p. 14; C., i., p. 352; H., p. 38.]

Family XIV. DICÆIDÆ.
 (Sharpe, t. c., p. 21.)

CCLXXXIX. DICÆUM, *Cab.*
 (Sharpe, t. c., p. 21.)

722. HIRUNDINACEUM, *Shaw* (p. 21). Australia generally.
 [G., i., p. 581; R., p. 14; C., i., p. 437; N., ii., p. 214; H., p. 46.]

CCXC. PARDALOTUS, *Vicill.*
 [Sharpe, t. c., p. 29.]

723. ORNATUS, *Tenm.* (p. 29). S. Queensland, New South Wales, Victoria, S. Australia, W. Australia.
 [G., i., p. 161; R., p. 3; C., i., p. 440; N., ii., p. 217; H., p. 46.]

724. ASSIMILIS, *Ramsay* (p. 29). Queensland to New South Wales, Victoria, Central Australia.
 [R., p. 4; C., i., p. 442; N., ii., p. 220; H., p. 46.]

725. AFFINIS, *Gould* (p. 29). S. Queensland, New South Wales, Victoria, S. Australia, Tasmania, Is. of Bass Strait.
 [G., i., p. 163; R., p. 3; C., i., p. 443; N., ii., p. 221; H., p. 46.]

726. PUNCTATUS, *Shaw* (p. 29). Australia generally, except N. Queensland and N.W. Australia.
 [G., i., p. 157; R., p. 3; C., i., p. 444; N., ii., p. 225; H., p. 46.]

727. XANTHOPYGIUS, *M'Coy* (p. 29). New South Wales, Victoria, S. Australia, W. Australia.
 [R., p. 3; C., i., p. 445; N., ii., p. 227; H., p. 46.]

728. RUBRICATUS, *Gould* (p. 29). W. of New South Wales, Queensland, Central Australia, Northern Territory, N.W. Australia.
 [G., i., p. 158; R., p. 4; C., i., p. 446; N., ii., p. 229; H., p. 46.]

729. MELANOCEPHALUS, *Gould* (p. 29). Queensland, N. of New South Wales.
 [G., i., p. 165; R., p. 4; C., i., p. 447; N., ii., p. 231; H., p. 46.]

730. UROPYGIALIS, *Gould* (p. 30). N. Queensland, Northern Territory, N.W. Australia (Derby).
 [G., i., p. 166; R., p. 4; C., i., p. 448; N., ii., p. 232; H., p. 46.]

731. QUADRAGINTUS, *Gould* (p. 30). Tasmania, King Is.
 [G., i., p. 160; R., p. 4; C., i., p. 449; N., ii., p. 233; H., p. 47.]

Family XV. NECTARINIDÆ.

(Sharpe, *t. c.*, p. 34.)CCXCI. CYRTOSTOMUS, *Cab.*
(Sharpe, *t. c.*, p. 55.)

732. FRENATUS, *S. Müll.* (p. 56). Cape York to Port Denison (New Guinea, Papuan Is., Arn Is., Molucca Is., Sula Is.)
 [G., i., p. 584; R., p. 14; C., i., p. 344; N., ii., p. 205; H., p. 36.]

Family XVI. MELIPHAGIDÆ.

(Sharpe, *t. c.*, p. 64.)CCXCII. MELITHREPTUS, *Vicell.*
(Sharpe, *t. c.*, p. 64.)

733. ATRICAPILLUS, *Lath.* (p. 64). Victoria, S. Australia, Kent. Is., Bass Strait, New South Wales to Wide Bay (S. Queensland).
 [*lunulatus*, *auct.*; G., i., p. 568; R., p. 14; C., i., p. 359; N., ii., p. 181; H., p. 38.]

734. ALBIGULARIS, *Gould* (p. 64).
 [G., i., p. 571; R., p. 14; C., i., p. 362; N., ii., p. 184; H., p. 38.] N.W. Australia, N. Territory, Queensland, New South Wales (S.E. New Guinea).

735. VINOTINCTUS, *De Vis* (p. 65).
 [C., i., p. 369; H., p. 39.] Gulf of Carpentaria (Norman River), N. Queensland.

736. CHLOROPSIS, *Gould* (p. 65).
 [G., i., p. 570; R., p. 14; C., i., p. 361; N., ii., p. 183; H., p. 38.] W. Australia.

737. GULARIS, *Gould* (p. 65).
 [G., i., p. 566; R., p. 14; C., i., p. 363; N., ii., p. 193; H., p. 39.] Queensland to New South Wales, Victoria, S. Australia, W. Australia.

738. LÆTIOR, *Gould* (p. 65).
 [R., p. 14; C., i., p. 368; N., ii., p. 195; H., p. 39.] Queensland, S. Australia, N.W. Australia (Derby).

739. CARPENTARIANUS, *Campbell* (p. 65).
 [Emu, iv., p. 71; H., p. 113.] N. Queensland.

740. VALIDIROSTRIS, *Gould* (p. 65).
 [G., i., p. 565; R., p. 14; C., i., p. 364; N., ii., p. 185; H., p. 39.] Tasmania, King Is.

741. BREVIROSTRIS, *Vig. and Horsf.* (p. 65).
 [R., p. 14; C., i., p. 364; N., ii., p. 190; H., p. 39.] S. Australia, W. Australia, Victoria, New South Wales, Queensland.

742. MAGNIROSTRIS, *North.*
 [Rec. Aust. Mus., vi., p. 20, pl. v., fig. 2 (1905); N., ii., p. 193; H., p. 113.] Kangaroo Is.

743. LEUCOGENYS, *Milligan* (p. 65).
 [Emu, ii., p. 160.] S.W. Australia.

744. AFFINIS, *Less.*
 [*melanocephalus*, *Gould*, p. 65. Cf. North, *Ibis* (Jan., 1906); G., i., p. 573; R., p. 14; C., i., p. 366; N., ii., p. 18; H., p. 39.] Tasmania, Is. of Bass Strait.

CCXCIII. PLECTORHAMPHUS, *Gray.*
 (Sharpe, *t. c.*, p. 65.)

745. LANCEOLATUS, *Gould* (p. 65).
 [G., i., p. 525; R., p. 13; C., i., p. 369; N., ii., p. 152; H., p. 39.] S. Australia, Victoria, New South Wales, Queensland.

CCXCIV. MYZOMELA, Vig. and Horsf.
(Sharpe, t. c., p. 66.)

746. SANGUINEOLENTA, *Lath.* (p. 66). Queensland, New South Wales, Victoria.
[G., i., p. 555; R., p. 14; C., i., p. 352; N., ii., p. 92; H., p. 37.]

747. ERYTHROCEPHALA, *Gould* (p. 67). N.W. Australia, Northern Territory, N. Queensland (S. New Guinea).
[G., i., p. 556; R., p. 14; C., i., p. 353; N., ii., p. 95; H., p. 37.]

748. NIGRA, *Gould* (p. 68). Queensland, New South Wales, Victoria, S. Australia, W. and N.W. Australia.
[G., i., p. 558; R., p. 14; C., i., p. 354; N., ii., p. 97; H., p. 37.]

749. PECTORALIS, *Gould* (p. 68). N.W. Australia (Derby) to Cape York and Port Denison.
[G., i., p. 557; R., p. 14; C., i., p. 355; N., ii., p. 100; H., p. 37.]

750. OBSCURA, *Gould* (p. 70). Port Darwin to Cape York, and down to Herbert River.
[G., i., p. 559; R., p. 14; C., i., p. 356; N., ii., p. 96; H., p. 37.]

751. GRISESCENS, *Hartert* (p. 70). W. Australia.
[Nov. Zool., xii., p. 235 (1905); H., p. 112.]

CCXCV. ACANTHORHYNCHUS, *Gould*.
(Sharpe, t. c., p. 71.)

752. TENUIROSTRIS, *Lath.* (p. 71). Queensland to New South Wales, Victoria, S. Australia.
[G., i., p. 551; R., p. 13; C., i., p. 358; N., ii., p. 101; H., p. 37.]

753. HALMATORINUS, *Campbell*. Kangaroo Is.
[H., p. 112.]

754. SUPERCILIOSUS, *Gould* (p. 71). S. Australia, W. Australia.
[G., i., p. 553; R., p. 13; C., i., p. 357; N., ii., p. 104; H., p. 37.]

755. DUBIUS, *Gould* (p. 71). Tasmania.
[R., p. 13; N., ii., p. 104; H., p. 37, pt.]

CCXCVI. GLYCYPHILA, Swains.

(Sharpe, t. c., p. 71.)

756. MELANOPS, *Lath.* (p. 71).
 [fulrifrons, *auct.*; *G.*, i., p. 495; *R.*, p. 12; *C.*, i., p. 370; *N.*, ii., p. 71; *H.*, p. 39.]

New South Wales to Wide Bay district, Victoria, Tasmania, S. Australia, Is. of Bass Strait, W. Australia.

757. ALBIFRONS, *Gould* (p. 72).
 [*G.*, i., p. 497; *R.*, p. 12; *C.*, i., p. 372; *N.*, ii., p. 74; *H.*, p. 39.]

New South Wales, Victoria, S. Australia, W. and N.W. Australia.

758. FASCIATA, *Gould* (p. 72).
 [*G.*, i., p. 499; *R.*, p. 12; *C.*, i., p. 373; *N.*, ii., p. 76; *H.*, p. 40.]

Northern Territory to Queensland, N.W. Australia.

759. MODESTA, *Gray* (p. 72).
 [*R.*, p. 12; *C.*, i., p. 376; *N.*, ii., p. 78; *H.*, p. 40.]

North Queensland (Herbert River), (New Guinea, Aru Is., Louisiade Is.)

CCXCVII. ENTOMOPHILA, *Gould*.

(Sharpe, t. c., p. 73.)

760. PICTA, *Gould* (p. 73).
 [*G.*, i., p. 530; *R.*, p. 13; *C.*, i., p. 377; *N.*, ii., p. 83; *H.*, p. 40.]

New South Wales, Victoria, S. Australia.

CCXCVIII. CONOPOPHILA, *Reichenb.*

(Sharpe, t. c., p. 73.)

761. ALBIGULARIS, *Gould* (p. 73).
 [*G.*, i., p. 532; *R.*, p. 13; *C.*, i., p. 379; *N.*, ii., p. 86; *H.*, p. 40.]

Northern Territory, N. Queensland (New Guinea, Aru Is.)

762. RUFIGULARIS, *Gould* (p. 73).
 [*G.*, i., p. 533; *R.*, p. 13; *C.*, i., p. 378; *N.*, ii., p. 85; *H.*, p. 40.]

N.W. Australia to N. Queensland.

CCXCIX. CERTHIONYX, *Less.*

(Sharpe, t. c., p. 73.)

763. VARIAGATUS, *Less.* (p. 73).
 [*leucomelas*, *auct.*; *picata*, *Gould*; *G.*, i., p. 529; *R.*, p. 13; *C.*, i., p. 380; *N.*, ii., p. 88; *H.*, p. 40.]

New South Wales, Victoria, S. Australia, W. and N.W. Australia.

CCC. MELIPHAGA, *Lewin.*(Sharpe, *t. c.*, p. 74.)

764. PHRYGIA, *Lath.* (p. 74). Queensland, New South Wales, Victoria, S. Australia.
[G., i., p. 527; R., p. 13; C., i., p. 381; N., ii., p. 154; H., p. 41.]

CCCI. STIGMATOPS, *Gould.*(Sharpe, *t. c.*, p. 78.)

765. OCULARIS, *Gould* (p. 78). N.W. Australia, Northern Territory, W. Australia, New South Wales, Queensland, Is. of Torres Strait (New Guinea, Aru Is.).
[G., i., p. 500; R., p. 12; C., i., p. 374; N., ii., p. 79; H., p. 40; *subocularis*, Gould (p. 78); G., i., p. 501; R., p. 12; C., i., p. 375.]

766. ALBIAURICULARIS, Ramsay (p. 78). Cape York (British New Guinea).
[R., p. 12; C., i., p. 377; H., p. 40.]

CCCII. PTILOTIS, *Swains.*(Sharpe, *t. c.*, p. 79.)

767. ANALOGA, *Reichenb.* (p. 80). Northern Territory to North Queensland (Herbert River), (New Guinea, Papuan Is.).
[C., i., p. 383; N., ii., p. 108; H., p. 41.]

768. GRACILIS, *Gould* (p. 80). Gulf of Carpentaria to Cape York.
[R., p. 12; C., i., p. 384; N., ii., p. 110; H., p. 41.]

769. FUSCA, *Gould* (p. 81). Victoria, New South Wales, Queensland.
[G., i., p. 520; R., p. 13; C., i., p. 385; N., ii., p. 114; H., p. 41.]

770. CHRUSOTIS, *Lath.* (p. 81). Victoria, New South Wales, Queensland.
[*lewinii*, *auct.*; G., i., p. 503; R., p. 12; C., i., p. 386; N., ii., p. 106; H., p. 41.]

771. MACLEAYANA, *Ramsay* (p. 81). N.E. Queensland (Endeavour River to Herbert River).
[R., p. 13; C., i., p. 389; N., ii., p. 120; H., p. 41.]

772. SONORA, *Gould* (p. 81). Australia generally, except extreme north.
[G., i., p. 504; R., p. 12; C., i., p. 390; N., ii., p. 116; H., p. 41.]

773. FORRESTI, *Ingram.* Northern Territory (Alexandra).
[*Ibis*, p. 412, 1907.]

774. VERSICOLOR, *Gould* (p. 81). [G., i., p. 506; R., p. 12; C., i., p. 392; N., ii., p. 118; H., p. 42.] Cape York to Rockingham Bay, Is. of Torres Strait (S.E. New Guinea).

775. CHRYSOPS, *Lath.* (p. 82). [G., i., p. 521; R., p. 13; C., i., p. 392; N., ii., p. 111; H., p. 42.] Queensland, New South Wales, Victoria, S. Australia.

776. FLAVICOLLIS, *Vicill.* (p. 82). [*flavigula*, *Gould*; G., i., p. 508; R., p. 12; C., i., p. 394; N., ii., p. 125; H., p. 42.] Tasmania, Is. of Bass Strait.

777. FASCIGULARIS, *Gould* (p. 82). [G., i., p. 507; R., p. 12; C., i., p. 395; H., p. 42.] E. Queensland.

778. LEUCOTIS, *Lath.* (p. 82). [G., i., p. 510; R., p. 12; C., i., p. 396; N., ii., p. 144; H., p. 42.] New South Wales, Victoria, S. Australia, Kangaroo Is., W. Australia.

779. NOVÆ-NORCIÆ, *Milligan* (p. 82). W. Australia (Wongan Hills).

780. COCKERELLI, *Gould* (p. 82). [R., p. 13; C., i., p. 397; H., p. 42.] Cape York.

781. MELANOPS, *Lath.* (p. 82). [*auricomis*, *Lath.* Cf. Sharpe, Hist. Coll. Brit. Mus., p. 131 (1906); G., i., p. 511; R., p. 12; C., i., p. 398; N., ii., p. 139; H., p. 42.] Queensland, New South Wales, Victoria.

782. CASSIDIX, *Jard.* (p. 82). Victoria. [R., p. 13; C., i., p. 400; N., ii., p. 142; H., p. 42.]

783. CRATITIA, *Gould* (p. 82). [G., i., p. 513; R., p. 12; C., i., p. 401; N., ii., p. 147; H., p. 42.] Victoria, S. Australia, Kangaroo Is., W. Australia.

784. OCCIDENTALIS, *Cab.* (p. 83). [R., p. 12; N., ii., p. 148; H., p. 42, pt.] W. and N.W. Australia (Derby to Point Cloates).

785. KEARTLANDI, *North* (p. 83). [C., i., p. 402; N., ii., p. 149; H., p. 42.] N. Queensland, Central Australia, N.W. Australia.

786. ORNATA, *Gould* (p. 83). [G., i., p. 515; R., p. 12; C., i., p. 406; N., ii., p. 135; H., p. 43.] New South Wales, Victoria, S. Australia, W. Australia.

787. PLUMULA, *Gould* (p. 83).
[G., i., p. 516; R., p. 13; C., i., p. 407; N., ii., p. 137; H., p. 43.] S. Australia, Queensland, New South Wales, W. Australia.

788. FLAVESCENS, *Gould* (p. 83).
[G., i., p. 517; R., p. 13; C., i., p. 408; N., ii., p. 128; H., p. 43.] Northern Territory, N. Queensland, N.W. Australia (New Guinea).

789. GERMANA, *Ramsay* (p. 83).
[R., p. 13; N., ii., p. 130; H., p. 43.] Cape York, Is. of Torres Strait (S.E. New Guinea).

790. FLAVA, *Gould*.
[G., i., p. 518; R., p. 13; C., i., p. 408; N., ii., p. 127; H., p. 43.] Northern Territory, Queensland (Port Denison).

791. PENICILLATA, *Gould* (p. 83).
[G., i., p. 519; R., p. 13; C., i., p. 403; N., ii., p. 131; H., p. 42.] S. Queensland, New South Wales, Victoria, Central Australia, S. Australia.

792. LEILAVALENSIS, *North* (p. 84).
[N., ii., p. 133; H., p. 43.] S. Australia, N. Queensland.

793. CARTERI, *Campbell*.
[Vict. Nat. (Mar., 1899); C., i., p. 405.] W. and N.W. Australia.

794. FRENATA, *Ramsay* (p. 84).
[R., p. 13; C., i., p. 388; N., ii., p. 123; H., p. 41.] Queensland (Blomfield River to Rockingham Bay).

795. UNICOLOR, *Gould* (p. 85).
[G., i., p. 523; R., p. 13; C., i., p. 410; N., ii., p. 151; H., p. 43.] N.W. Australia (Derby), Northern Territory, N. Queensland (S.E. New Guinea).

CCCIII. XANTHOTIS, *Reichenb.*
(Sharpe, t. c., p. 85.)

796. FILIGERA, *Gould* (p. 85).
[G., i., p. 522; R., p. 13; C., i., p. 394; H., p. 42.] Cape York, Gulf of Carpentaria.

CCCIV. MELIORNIS, *Gray*.
(Sharpe, t. c., p. 87.)

797. PYRRHOPTERA, *Lath.* (p. 87).
[australasiana, *Shaw*, auct.; G., i., p. 493; R., p. 12; C., i., p. 411; N., ii., p. 68; H., p. 43.] New South Wales, Victoria, S. Australia, Tasmania, Is. of Bass Strait.

798. HALMaturina, *Campbell*.
[Emu, v., p. 143; H., p. 113.] Kangaroo Is., S. Australia.

799. NOVÆ-HOLLANDIÆ, *Lath.* (p. 87).
 [G., i., p. 486; R., p. 12; C.,
 i., p. 412; N., ii., p. 59; H.,
 p. 43.] S. Queensland, New
 South Wales, Vic-
 toria, S. Australia,
 Tasmania, Is. of
 Bass Strait.

800. LONGIROSTRIS, *Gould* (p. 87).
 [G., i., p. 488; R., p. 12; C.,
 i., p. 413; N., ii., p. 63; H.,
 p. 43.] W. Australia.

801. SERICEA, *Gould* (p. 88).
 [G., i., p. 490; R., p. 12; C.,
 i., p. 414; N., ii., p. 65; H.,
 p. 44.] Victoria, New South
 Wales, Queensland.

802. MYSTACALIS, *Gould* (p. 88).
 [G., i., p. 496; R., p. 12; C.,
 i., p. 415; N., ii., p. 67; H.,
 p. 44.] W. Australia.

CCCV. MANORHINA, *Vieill.*
 (Sharpe, *t. c.*, p. 88.)

803. MELANOPHRYNS, *Lath.* (p. 88).
 [G., i., p. 579; R., p. 14; C.,
 i., p. 416; N., ii., p. 197; H.,
 p. 44.] S. Queensland, New
 South Wales, Vic-
 toria.

CCCVI. MYZANTHÆ, *Vig.* and *Horsf.*
 (Sharpe, *t. c.*, p. 89.)

804. GARRULA, *Lath.* (p. 89).
 [G., i., p. 574; R., p. 14; C.,
 i., p. 420; N., ii., p. 199; H.,
 p. 44.] S. Queensland, New
 South Wales, Vic-
 toria, Tasmania, S.
 Australia.

805. OBSCURA, *Gould* (p. 89).
 [G., i., p. 576; R., p. 14; C.,
 i., p. 421; N., ii., p. 204; H.,
 p. 44.] W. Australia.

806. FLAVIGULA, *Gould* (p. 89).
 [G., i., p. 578; R., p. 14; C.,
 i., p. 422; N., ii., p. 202; H.,
 p. 44.] Gulf of Carpentaria to
 Dawson River, New
 South Wales, Vic-
 toria, Central Aus-
 tralia, S. Australia.

807. LUTEA, *Gould* (p. 89).
 [G., i., p. 577; R., p. 14; C.,
 i., p. 423; N., ii., p. 204; H.,
 p. 44.] N.W. Australia, Nor-
 thern Territory.

CCCVII. ANTHOCHÆRA, *Vig.* and *Horsf.*
 (Sharpe, *t. c.*, p. 89.)

808. CARUNCULATA, *Lath* (p. 89).
 [G., i., p. 538; R., p. 13; C.,
 i., p. 428; N., ii., p. 160; H.,
 p. 44.] S. Queensland, New
 South Wales, Vic-
 toria, S. Australia,
 W. Australia.

809. PARADOXA, *Lath.* Tasmania, King Is.
 [*inauris*, Gould (p. 89). Cf.
 North, *Ibis* (Jan., 1906); G., i., p. 536; R., p. 13; C., i., p. 425; N., ii., p. 168; H., p. 44.]

CCCVIII. ANELLOBIA, *Cab.*
 (Sharpe, *t. c.*, p. 90.)

810. CHRYSOPTERA, *Lath.* (p. 90). S. Queensland, New South Wales, Victoria, Tasmania, S. Australia.
 [*mellivora*, *auct.*; G., i., p. 541; R., p. 13; C., i., p. 425; N., ii., p. 165; H., p. 44.]

811. LUNULATA, *Gould* (p. 90). W. Australia.
 [G., i., p. 543; R., p. 13; C., i., p. 426; N., ii., p. 167; H., p. 45.]

CCCIX. ACANTHOGENYS, *Gould*.
 (Sharpe, *t. c.*, p. 90.)

812. RUFIGULARIS, *Gould* (p. 90). Northern Territory, Queensland (Dawson River), New South Wales, Victoria, S. Australia, W. and N.W. Australia (Point Cloates).
 [G., i., p. 534; R., p. 13; C., i., p. 427; N., ii., p. 157; H., p. 45.]

CCCX. ENTOMYZA, *Swains.*
 (Sharpe, *t. c.*, p. 92.)

813. CYANOTIS, *Lath.* (p. 92). S. Queensland, New South Wales, Victoria, S. Australia.
 [G., i., p. 560; R., p. 14; C., i., p. 429; N., ii., p. 177; H., p. 45.]

814. HARTERTI, *Robins and Laver* (p. 92). N. Queensland.
 [N., ii., p. 180; H., p. 113.]

815. ALBIPENNIS, *Gould* (p. 92). Northern Territory, Gulf of Carpentaria.
 [G., i., p. 563; R., p. 14; C., i., p. 432; N., ii., p. 180; H., p. 45.]

CCCXI. TROPIDORHYNCHUS, *Vig.* and *Horsf.*
 (Sharpe, *t. c.*, p. 92.)

816. ARGENTICEPS, *Gould* (p. 93). N.W. Australia, N. Territory, N. Queensland (Blomfield River).
 [G., i., p. 548; R., p. 13; C., i., p. 434; N., ii., p. 172; H., p. 45.]

817. BUCEROIDES, *Swains.* (p. 93). Gulf of Carpentaria,
 [G., i., p. 547; R., p. 13; C., Cape York south to
 i., p. 434; N., ii., p. 171; H., Rockingham Bay.
 p. 45.]

818. CORNICULATUS, *Lath.* (p. 93). Queensland, New
 [G., i., p. 545; R., p. 13; C., South Wales, Vic-
 i., p. 432; N., ii., p. 168; H., toria, S. Australia.
 p. 45.]

CCCXII. PHILEMON, *Vieill.*
 (Sharpe, *t. c.*, p. 93.)

819. CITREIGULARIS, *Gould* (p. 94). Cape York to New
 [G., i., p. 549; R., p. 13; C., South Wales, Vic-
 i., p. 435; N., ii., p. 178; H., toria, S. Australia,
 p. 45.] N.W. Australia.

820. SORDIDUS, *Gould* (p. 94). Gulf of Carpentaria,
 [G., i., p. 550; R., p. 13; C., Dawson River.
 i., p. 436; N., ii., p. 175; H.,
 p. 45.]

Family XVII. MOTACILLIDÆ.
 (Sharpe, *t. c.*, p. 137.)

CCCXIII. MOTACILLA, *Linn.*
 (Sharpe, *t. c.*, p. 137.)

821. BARNARDI, *North.* Queensland (Dawson
 [P. Linn. Soc. N.S.W. (1905); River).
 H., p. 111.]

CCCXIV. ANTHUS, *Bechst.*
 (Sharpe, *t. c.*, p. 144.)

822. AUSTRALIS, *Vig. and Horsf.* (p. Australia generally,
 151). Tasmania.
 [G., i., p. 392; R., p. 10; C.,
 i., p. 459; H., p. 47.]

Family XVIII. ALAUDIDÆ.
 (Sharpe, *Handl. B.*, v., p. 154.)

CCCXV. MIRAFRA, *Horsf.*
 (Sharpe, *t. c.*, p. 170.)

823. HORSFIELDI, *Gould* (p. 172). S. Queensland, New
 [G., i., p. 404; R., p. 10; C., South Wales, Vic-
 i., p. 501; H., p. 52.] toria, S. Australia.

824. SECUNDA, Sharpe (p. 172). Victoria (?), S. Australia.
[*woodwardi*, Milligan, *Vict. Nat.*, xviii., p. 25; H., p. 118; C., i., p. 503; H., p. 52.]

825. MILLIGANI, Sharpe (p. 172). N.W. Australia.
[*pallida*, Hall (*nee* Sharpe), *Emu*, iii., p. 231 (1904).]

826. RUFESCENS, Ingram (p. 172). Northern Territory.

Family XIX. PLOCEIDÆ.

(Sharpe, Cat. B., xiii., p. 198, 1890.)

CCCXVI. STAGANOPLEURA, Reichenb.
(Sharpe, *t. c.*, p. 292.)

827. GUTTATA, Shaw (p. 292). S. Queensland, New South Wales, Victoria, S. Australia.
[G., i., p. 417; R., p. 10; C., i., p. 478; H., p. 49.]

CCCXVII. ZONÆGINTHUS, Cab.
(Sharpe, *t. c.*, p. 293.)

828. BELLUS, Lath. (p. 293). S. Queensland, New South Wales, Victoria, Tasmania, S. Australia.
[G., i., p. 406; R., p. 10; C., i., p. 479; H., p. 49.]

829. OCULATUS, Quoy and Gaim. (p. 294). W. and S.W. Australia.
[G., i., p. 407; R., p. 10; C., i., p. 480; H., p. 49.]

CCCXVIII. EMBLEMA, Gould.
(Sharpe, *t. c.*, p. 295.)

830. PICTA, Gould (p. 295). New South Wales, *ac-
cid.*, S. Australia, Central Australia, W. and N.W. Australia.
[G., i., p. 429; R., p. 10; C., i., p. 481; H., p. 49.]

CCCXIX. TÆNIOPYGIA, Reichenb.
(Sharpe, *t. c.*, p. 311.)

831. CASTANOTIS, Gould (p. 311). Australia generally.
[G., i., p. 419; R., p. 10; C., i., p. 483; H., p. 50.]

CCCXX. STICTOPTERA, *Reichenb.*(Sharpe, *t. c.*, p. 313.)

832. BICHENOVII, *Vig. and Horsf.* (p. 313). Australia generally.

[G., *i.*, p. 409; R., p. 10; C.,
i., p. 485; H., p. 50.]

833. ANNULOSA, *Gould* (p. 314). N.W. Australia, Northern Territory.

[G., *i.*, p. 410; R., p. 10; C.,
i., p. 486; H., p. 50.]

CCCXXI. MUNIA.

(Sharpe, *t. c.*, p. 326.)

834. CASTANEITHORAX, *Gould* (p. 340). Northern Territory, Queensland, New South Wales.

[G., *i.*, p. 426; R., p. 10; C.,
i., p. 487; H., p. 50.]

835. XANTHOPRYMNA, *Mathews* (p. 354). Northern Territory, N.W. Australia.

[*vice* *flaviprymna*, *rox*
hybrida; G., *i.*, p. 428; R.,
p. 10; C., *i.*, p. 488; H., p.
50.]

836. PECTORALIS, *Gould* (p. 354). N.W. Australia, Northern Territory, N. Queensland.

[G., *i.*, p. 427; R., p. 10; C.,
i., p. 489; H., p. 50.]CCCXXII. AIDEMOSYNE, *Reichenb.*(Sharpe, *t. c.*, p. 368.)

837. MODESTA, *Gould* (p. 368).

[G., *i.*, p. 414; R., p. 10; C.,
i., p. 489; H., p. 50.]

S. Queensland, New South Wales, Victoria, Central Australia.

CCCXXIII. ÆGININTHA, *Cab.*(Sharpe, *t. c.*, p. 372.)

838. TEMPORALIS, *Lath.* (p. 372).

[G., *i.*, p. 411; R., p. 20; C.,
i., p. 490; H., p. 51.]

S. Queensland,* New South Wales, Victoria, S. Australia.

CCCXXIV. BATHILDA, *Reichenb.*(Sharpe, *t. c.*, p. 374.)

839. RUFICAUDA, *Gould* (p. 374).

[G., *i.*, p. 412; R., p. 10; C.,
i., p. 492; H., p. 51.]

Northern Territory, Queensland, New South Wales, N.W. Australia.

840. CLARESCENS, *Hartert.*

[Nov. Zool., vi., p. 427 (1899);
H., p. 113.]

N. Queensland.

* N. Queensland should be added to the habitat of this species, unless the Cape York bird be another species. See "Nests and Eggs," p. 491 (Campbell).—A.J.C.

CCCXXV. POEPHILA, *Gould.*
(Sharpe, *t. c.*, p. 375.)

841. ACUTICAUDA, *Gould* (p. 375). Northern Territory,
[G., i., p. 422; R., p. 10; C., N.W. Australia,
i., p. 493; H., p. 51.]

842. HECKI, *Heinroth.* Northern Territory.
[Ornith. Monathsbl. Jarlig.,
viii., p. 22 (1900); *aurantii-*
rostris, North.]

843. CINCTA, *Gould* (p. 376). Queensland, New
[G., i., p. 425; R., p. 10; C., South Wales,
i., p. 494; H., p. 51.]

844. PERSONATA, *Gould* (p. 377). Northern Territory,
[G., i., p. 423; R., p. 10; C., N.W. Australia, N.
i., p. 495; H., p. 51.] Queensland.

845. LEUCOTIS, *Gould* (p. 377). N. Australia, N.
[G., i., p. 424; R., p. 10; C., Queensland,
i., p. 496; H., p. 51.]

846. GOULDIAE, *Gould* (p. 378). N.W. Australia, Nor-
[G., i., pp. 420-421; R., p. 10;
C., i., p. 497; H., p. 51;
mirabilis, Des Murs; *armi-*
tiana, Ramsay. *Cf.* Har-
tert, Nov. Zool., xii. (1905).

847. NIGROTECTA, *Hartert.* Northern Territory, N.
[Bull. B.O.C., viii., p. lix.
(1899); *atropygialis* (*vox*
hybrida), Diggles; Rep.
Queensl. Phil. Soc., p. 876;
H., p. 51; C., i., p. 496; H.,
p. 113.] Queensland.

848. NEGLECTA, *North.* Queensland.
[Rec. Austr. Mus., v. (p. 263
(1901); H., p. 113.]

CCCXXVI. NEOCHMIA, *Bp.*
(Sharpe, *t. c.*, p. 389.)

849. PHAETON, *Homb. and Jacq.* (p.
389). N.W. Australia, Nor-
[G., i., p. 415; R., p. 10; C.,
i., p. 499; H., p. 52.] thern Territory, N.
Queensland.

Family XX. ORIOLIDÆ.

(Sharpe, Cat. B., iii., p. 188.)

CCCXXVII. ORIOLUS, *Linn.*

(Sharpe, t. c., p. 188).

850. SAGITTARIUS, *Lath.* Queensland, New
 [viridis, Lath; Sharpe, t. c., South Wales, Victoria.*
 p. 212; affinis, Gould; G., i., p. 465; C., i., p. 79; G., i., pp. 462, 465; R., p. 11; C., i., p. 81; N., i., p. 75; H., p. 10.]

851. FLAVICINCTUS, *King* (p. 206). Northern Territory,
 [G., i., p. 466; R., p. 11; C., N. and N.E. Queens-
 i., p. 80; N., i., p. 79; H., land (Aru Is.) p. 9.]

CCCXXVIII. SPHECOTHERES, *Vieill.*

(Sharpe, t. c., p. 223.)

852. MAXILLARIS, *Lath.* (p. 224). E. Queensland, N.E.
 [G., i., p. 467; R., p. 11; C., New South Wales.
 i., p. 82; N., i., p. 81; H., p. 10.]

853. FLAVIVENTRIS, *Gould* (p. 225). N. Australia, E.
 [G., i., p. 468; R., p. 11; C., Queensland† (Key
 i., p. 84; N., i., p. 83; C., and Molucca Is.)
 p. 10.]

Family XXI. DICRURIDÆ.

(Sharpe, t. c., p. 228.)

CCCXXIX. CHIBIA, *Hodges.*

(Sharpe, t. c., p. 234.)

854. BRACTEATA, *Gould* (p. 236). Northern Territory,
 [G., i., p. 235; R., p. 5; C., Queensland, New
 i., p. 85; N., i., p. 85; H., South Wales, Vic-
 p. 10.] toria, Tasmania (ac-
 cid.) (New Guinea).

Family XXII. EULABETIDÆ.

(Sharpe, Classif. Birds, p. 85, 1891.)

CCCXXX. APLONIS, *Gould.*

(Sharpe, t. c., p. 125.)

855. FUSCUS, *Gould* (p. 133). Norfolk Is., Lord
 [R., p. 37.] Howe Is.

* This species has been noted in S. Australia, and if *O. affinis* be synonymous, N.W. Australia and Northern Territory should also be added.—A.J.C.

† Mr. Sid. W. Jackson states he has observed this species as far south as Grafton (N.S.W.) *Vide* "Catalogue and Data of the Jacksonian Oological Collection," p. 99.—A.J.C.

CCCXXXI. CALORNIS, *Gray.*

(Sharpe, *t. c.*, p. 137.)

856. METALLICA, *Tenn.* (p. 138). Northern Territory, N.
[G., i., p. 477; R., p. 12; C., Queensland (Cape
i., p. 475; H., p. 48.) York).

Family XXIII. PTILONORHYNCHIDÆ.

(Sharpe, *Cat. B.*, vi., p. 380.)

CCCXXXII. PTILONORHYNCHIUS, *Kuhl.*

(Sharpe, *t. c.*, p. 380.)

857. VIOlaceus, *Vicill.* (p. 381). E. Queensland, E.
[G., i., p. 442; R., p. 11; C., New South Wales,
i., p. 191; N., i., p. 36; H., Victoria.
p. 21.]

CCCXXXIII. SCENOPÆTES, *Cours.*

(Sharpe, *t. c.*, p. 394.)

858. DENTIROSTRIS, *Ramsay* (p. 394). N.E. Queensland.
[R., p. 11; C., i., p. 207; N.,
i., p. 68; H., p. 22.]

CCCXXXIV. AELURÆDUS, *Cab.*

(Sharpe, *t. c.*, p. 382.)

859. VIRIDIS, *Lath.* (p. 385). S.E. Queensland, E.
[G., i., p. 446; R., p. 11; C., New South Wales,
i., p. 196; N., i., p. 70; H.,
p. 21.]

860. MACULOSUS, *Ramsay* (p. 385). N.E. Queensland.
[R., p. 11; C., i., p. 195; N.,
i., p. 73; H., p. 21.]

CCCXXXV. CHLAMYDODERA, *Gould.*

(Sharpe, *t. c.*, p. 388.)

861. MACULATA, *Gould* (p. 389). Queensland, New
[G., i., p. 450; R., p. 11; C., South Wales, Vic-
i., p. 198; N., i., p. 41; H., toria, S. Australia.
p. 22.]

862. GUTTATA, *Gould* (p. 390). W. Australia, Central
[G., i., p. 452; R., p. 11; C., Australia.
i., p. 202; N., i., p. 48; H.,
p. 22.]

863. NUCHALIS, *Jard.* and *Selby* (p. Northern Territory,
391). N.W. Australia.

[G., i., p. 448; R., p. 11;
C., i., p. 203; N., i., p. 51;
H., p. 22.]

864. ORIENTALIS, *Gould* (p. 392). N. and N.E. Australia.
 [R., p. 11; C., i., p. 204; N., i., p. 55; H., p. 22.]

865. CERVINIVENTRIS, *Gould* (p. 393). Cape York (S. New Guinea, Louisiade Archipelago).
 [G., i., p. 454; R., p. 11; C., i., p. 206; N., i., p. 58; H., p. 22.]

CCCXXXVI. SERICULUS, *Swains.*
 (Sharpe, *t. c.*, p. 395.)

866. CHRYSOCEPHALUS, *Lewin* (p. 395). S.E. Queensland, N.E. New South Wales.
 [*melinus*, *Swains*. *Cf*. Sharpe, *Hist. Coll. Brit. Mus.*, ii., p. 132 (1906); G., i., p. 456; R., p. 11; C., i., p. 208; N., i., p. 60; H., p. 22.]

CCCXXXVII. PRIONODURA, *De Vis.*
 [Pr. Linn. Soc., N.S.W., vii., p. 562 (1883).]

867. NEWTONIANA, *De Vis* (*t. c.*) N.E. Queensland.
 [R., p. 11; C., i., p. 212; N., i., p. 65; H., p. 9.]

Family XXIV. PARADISEIDÆ.
 (Sharpe, *Cat. B.*, iii., p. 153.)

(Sub-Family I. EPAMACHINÆ.
 (Sharpe, *t. c.*, p. 153.)

CCCXXXVIII. PTILORHIS, *Swains.*
 (Sharpe, *t. c.*, p. 153.)

868. PARADISEA, *Swains* (p. 154). S.E. Queensland, N.E. New South Wales.
 [G., i., p. 591; R., p. 11; C., i., p. 66, ii., p. 1,073; N., i., p. 23; H., p. 9.]

869. VICTORIÆ, *Gould* (p. 155). Queensland (Blomefield River to Herbert River).
 [G., i., p. 593; R., p. 11; C., i., p. 69; N., i., p. 26; H., p. 9.]

CCCXXXIX. CRASPEDOPHORA, *Gray*.
 (*Ptilorhis*, *pt.*, Sharpe, *t. c.*, p. 153.)

870. ALBERTI, *Elliot* (p. 156). Cape York.
 [R., p. 11; C., i., p. 76; N., i., p. 29; H., p. 9.]

Sub-Family II. PARADISEINÆ.

(Sharpe, *t. c.*, p. 163.)

CCCXL. PHONYGAMA, *Less.*

(Sharpe, *t. c.*, p. 180.)

871. GOULDI, *Gray* (p. 181). Cape York.
[G., i., p. 236; R., p. 11; C.,
i., p. 78; N., i., p. 32; H., p.
9.]

Family XXV. CORVIDÆ.

(Sharpe, *t. c.*, p. 4.)

Sub-Family I. CORVINÆ.

(Sharpe, *t. c.*, p. 5.)

CCCXLI. CORVUS, *Linn.*

(Sharpe, *t. c.*, p. 13.)

872. CORONOIDES, *Vig. and Horsf.* (p. 20). Australia generally,
[R., p. 12; C., i., p. 54; N., Tasmania.
i., p. 1; H., p. 7.]

873. BENNETTI, *North.* W. New South Wales,
[*Vict. Nat.*, xvii., p. 170 Victoria, S. and W.
(1901); N., i., p. 3; H., p. Australia.
110.]

CCCXLII. CORONE, *Kaup.*

(Sharpe, *t. c.*, p. 30.)

874. AUSTRALIS, *Gould* (p. 37). Australia generally,
[G., i., p. 475; R., p. 12; C., Tasmania.
i., p. 55; N., i., p. 5; H., p.
7.]

CCCXLIII. STREPERA, *Less.*

(Sharpe, *t. c.*, p. 57.)

875. GRACULINA, *White* (p. 57). Queensland, New
[G., i., p. 168; R., p. 4; C., South Wales, Vic-
i., p. 58; N., i., p. 8; H., p. toria, Lord Howe
7.] Is.

876. ARGUTA, *Gould* (p. 59). Tasmania.
[G., i., p. 171; R., p. 4; C., i.,
p. 59; N., i., p. 10; H., p.
8.]

877. MELANOPTERA, *Gould* (p. 61). S. Australia, Kair-
[*intermedia*, Sharpe, *t. c.*, p. guroo Is.
59; G., i., p. 171, pt.; R., p.
4; C., i., p. 61; N., i., p. 12;
H., p. 8.]

878. VERSICOLOR, *Lath.* Queensland, New
 [*cuneicauda*, *Vieill.* (p. 60). South Wales, Vic-
 Cf. Sharpe, *Hist. Coll. Brit.* toria.
Mus., p. 119 (1906): *G.*, i., p. 173; *R.*, p. 4; *C.*, i., p. 60; *N.*, i., p. 14; *H.*, p. 8.]

879. PLUMBEA, *Gould* (p. 60). W. Australia.
 [*R.*, p. 4; *C.*, i., p. 60; *N.*, i., p. 16; *H.*, p. 8.]

880. FUSCA. Eyre Peninsula.
 [*Cf. Emu*, v., p. 27 (1905).]

881. FULIGINOSA, *Gould* (p. 61). Queensland, New
 [*G.*, i., p. 170; *R.*, p. 4; *C.*, South Wales, Vic-
 i., p. 62; *N.*, i., p. 17; *H.*, p. toria, S. Australia,
 8.] Tasmania, Is. of Bass Strait.

CCCXLIV. STRUTHIDÆA, *Gould*.
 (Sharpe, *t. c.*, p. 140.)

882. CINEREA, *Gould* (p. 140). Northern Territory,
 [*G.*, i., p. 472; *R.*, p. 12; *C.*, Queensland, New
 i., p. 63; *N.*, i., p. 18; *H.*, p. South Wales, Vic-
 8.] toria, S. Australia.

Sub-Family II. FREGILINÆ.

(Sharpe, *t. c.*, p. 146.)

CCCXLV. CORCORAX, *Less.*
 (Sharpe, *t. c.*, p. 149.)

883. MELANORHAMPUS, *Vieill.* (p. 149). Queensland, New
 [*G.*, i., p. 470; *R.*, p. 12; *C.*, South Wales, Vic-
 i., p. 65; *N.*, i., p. 21; *H.*, toria, S. Australia.
 p. 8.]

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